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# Levels of serum uric acid and risk of myocardial infarction among gout patients

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BOSTON UNIVERSITY  
SCHOOL OF MEDICINE

Thesis

**LEVEL OF SERUM URIC ACID AND RISK OF MYOCARDIAL INFARCTION  
AMONG GOUT PATIENTS**

by

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M.B.Ch.B., University of Tripoli, 2003

Submitted in partial fulfillment of the  
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**LEVELS OF SERUM URIC ACID AND RISK OF MYOCARDIAL INFARCTION  
AMONG GOUT PATIENTS**

**ABDALLA ALI ABDUSSAMAD**

**ABSTRACT**

**Objective:** Our aim in this study to determine if serum uric acid level measured at baseline is a risk factor to develop Myocardial Infarction among people diagnosed with gout.

**Method:** This was a retrospective cohort study, which used the THIN (The Health Improvement Network), an electronic medical records database from the UK. Obtained were SUA levels at baseline after gout diagnosis and follow-up till time of event. We performed Cox proportional hazard regression models to examine the relation of SUA levels to risk of incident MI for men and women separately, and the multivariable regression model.

**Results:** There were 12,180 individuals included in this study, of them, 70% (n=8539) were men. There were 200 events of MI, 145 in men and 55 in women. SUA were not associated with risk of MI in unadjusted and adjusted multivariable regression model, the crude HR of MI in men were 1.27 (95% CI: 0.70-2.30), 0.97 (95% CI: 0.56-1.69), 0.83 (95% CI: 0.47-1.46), and 1.07 (95% CI: 0.62-1.84), respectively, for each increased SUA categories. No change observed after full adjustment. Similar results were also observed in women.

Conclusion: There is no association between baseline SUA and risk of MI among gout patients.

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## LIST OF ABBREVIATIONS

ACEI.....	Angiotensin Converting Enzyme Inhibitor
ANOVA.....	Analysis of variance
BMI.....	Body Mass Index
CHD.....	Coronary Heart Disease
CI.....	Confidence Interval
CV.....	Cardiovascular
CVD.....	Cardiovascular Disease
CVE.....	Cardiovascular Events
CSD.....	Cegedim Strategic Data
GP.....	General Practitioner
HR.....	Hazard Ratio
IHD.....	Ischemic Heart Disease
MI.....	Myocardial Infarction
NHS.....	The National Health System
SUA.....	Serum Uric Acid
THIN.....	The Health Improvement Network
ULT.....	Urate Lowering Therapy

## INTRODUCTION

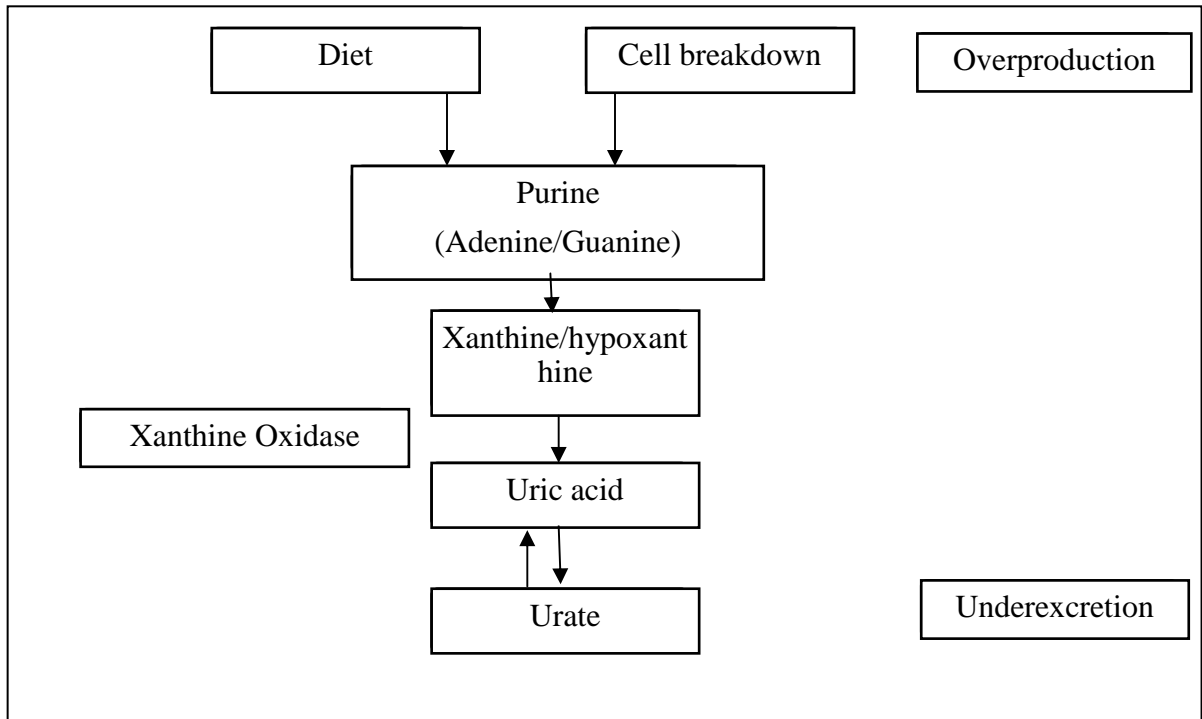
### Background of Gout and Hyperuricemia

#### Uric Acid

Uric acid is an end product of the break down of compound called purine (Figure.1).<sup>1</sup> Purines (adenine and guanine) are chemical compounds serve crucial roles in many body biological processes, by producing some important bioactive molecules, these molecules play a major role in genetic materials synthesis, protein synthesis, energy molecules production, and can act as mediators in nervous system<sup>2-4</sup>. The main sources of purines are from diet, body synthesis from non-purine precursors, and turnover of nucleic acid.<sup>2,</sup>

3

Under normal circumstances the body eliminates excess uric acid production through the kidney and the gut, which helps to keep serum urate concentrations below the limit of solubility point, i.e., 6.8 milligram per deciliter (mg/dl) at normal body temperature and PH<sup>4-7</sup>. Women have relatively lower levels of serum uric acid concentration than men because of premenopausal effect of estrogen, which reduces reabsorption of uric acid by the kidneys. This explains why women are at lower risk to develop hyperuricemia at childbearing age.<sup>6-9</sup>



**FIGURE.1 Purines Metabolism and Uric Acid Production**

### **Hyperuricemia**

Hyperuricemia is an abnormally high level of serum uric acid greater than 6.8 mg/dl.<sup>6, 10, 11</sup> This occurs because either uric acid production increases or, more often, the kidney is unable to remove uric acid from the body well enough.<sup>5-7, 12</sup> Hyperuricemia is present in about 5% of the population.<sup>17</sup> Over time, hyperuricemia may remain as asymptomatic, or progress to gout, urolithiasis (formation of stone in the kidney), or chronic kidney disease (loss of kidney function over time).<sup>6, 7, 12, 13, 15</sup>

## **Gout**

Gout is a metabolic disorder caused by a buildup of uric acid in the blood. The excess uric acid (a normal waste product) collects in the body, and precipitate to form needle-like urate crystals deposit in and around the joints causing swelling and pain. Over time, these crystals can attract white blood cells leading to severe, painful gout attacks and chronic arthritis.<sup>6, 7, 12-15</sup> The peak incidence of gout occurs in patients 30 to 50 years old, and the condition is much more common in men than in women.<sup>6, 7, 13, 14</sup> Gout progresses through four clinical phases: asymptomatic hyperuricemia, acute gouty arthritis, intercritical gout (intervals between acute attacks), and chronic tophaceous gout.<sup>6, 7, 12-15</sup>

## **Asymptomatic Hyperuricemia**

Asymptomatic hyperuricemia is the condition in which the high levels of serum uric acid result without any clinical symptoms or signs of uric acid crystals deposition.<sup>5, 12, 13, 16</sup> Approximately 5-8 % of US adult, Caucasian males experience this condition.<sup>16</sup> Less than 30% of individuals with hyperuricemic will develop gout.<sup>6, 7, 16</sup> However, it can take ten to thirty years to experience a first acute gout attack.<sup>16</sup> Current clinical practice does not recommend treatment of asymptomatic hyperuricemia, but it is recommended to aggressively treat any accompany disease such as obesity, high lipid profile, high blood pressure, and diabetes millets.<sup>17</sup> These conditions are components of metabolic syndrome, which frequently associated with hyperuricemia, and it has high risk

cardiovascular profile which could lead to serious cardiovascular events including MI.<sup>16-</sup>

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### **Acute Gouty Arthritis**

In the early stages, gout commonly presents as single joint pain, typically big toe joint pain called podagra, later it might affects more joints. Gout attacks usually begin at night with joint pain, swelling, and redness, then subside spontaneously without treatment within 1-2 weeks. Over time, gout attacks tend to involve more joints, become more frequent and less acute, and last longer.<sup>6, 7, 12-15</sup>

### **Intercritical Gout**

Following recovery from acute gouty arthritis, the patient reenters an asymptomatic phase of the disease. This phase is referred to as “intercritical gout. At the beginning, this period may last for several years, but as the disease progresses this interval tends to become shorter.<sup>6, 7, 12-15</sup> The intercritical gout phase is perfect time for physicians to do additional work-ups to screen for the cause, any accompanying disease, and to start treatment.<sup>13, 19</sup>

### **Chronic Tophaceous Gout**

As gout continues to progress, the periods between gout attacks are no longer symptom free. This may take more than 10 years to develop.<sup>13</sup> The main features of this stage are joint damage, chronic pain, disability, and development of tophi (large deposits

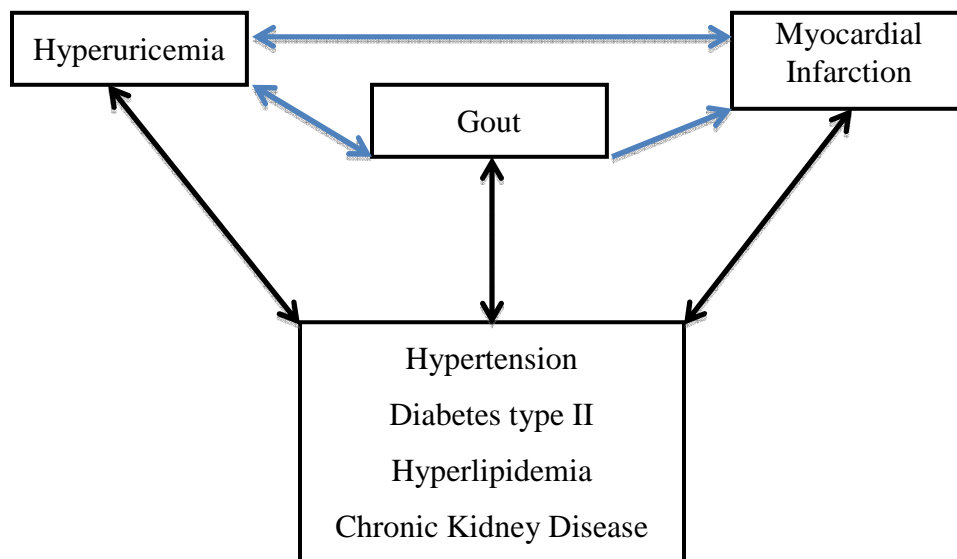
of sodium urate) in and around joints and some other tissues such as tendons, heart valves, ears, and the breast.<sup>7, 13, 15, 16, 19, 20</sup>

### **Prevalence / Epidemiology of Gout**

In general gout has become more prevalent in developed and developing countries such as the United States, United Kingdom, New Zealand, and China.<sup>21-31</sup> In the United States gout affects 1- 2% of the population, and approximately 6% of men over the age of 80.<sup>32</sup> In the United Kingdom gout affects 7% of men age over 75 years of age.<sup>7, 15, 29</sup> It is more prevalent in men than in women,<sup>6, 7, 15, 19, 26, 27, 29, 32</sup> usually affects men over the age of 40, and menopausal women (over 65).<sup>7, 15, 29, 33-35</sup> Gout tends to run in family in approximately 40% of patients.<sup>32</sup> Data from epidemiological studies suggest that gout is associated with metabolic syndrome,<sup>36-42</sup> more specifically, with obesity,<sup>42-45</sup> hypertension (high blood pressure),<sup>44, 46-48</sup> hyperlipidemia (high cholesterol and triglycerides)<sup>49-55</sup> and diabetes.<sup>27, 37, 39, 56, 57</sup> The risk of developing gout is also associated with certain dietary factors such as red meat,<sup>58-63</sup> and alcohol,<sup>64-66, 68</sup> and medications for instance, aspirin,<sup>67</sup> and thiazide diuretics.<sup>27,43,68</sup>

### **Hyperuricemia, Gout, and Cardiovascular Events (CVE)**

Individuals with hyperuricemia or gout are at increased risk of developing traditional cardiovascular events, such as hypertension, kidney disease, diabetes, and metabolic syndrome (Figure.2).<sup>27, 36-57</sup>



**Figure 2. A Risk Model for Hyperuricemia, Gouty Arthritis (gout), and Acute Myocardial Infarction**

Over the past several decades numerous studies have examined the association between hyperurecemia (and gout) and the risk of cardiovascular disease; however, the results were inconclusive.

In earlier cohort studies, findings regarding the association of hyperurecemia or gout with risk of ischemic heart disease (IHD) were mixed.<sup>70-74</sup> Some studies suggested that individuals with hyperuricemia or gout had an increased risk of IHD. Other studies, however, failed to confirm such an association after adjusting for known traditional cardiovascular risk factors.<sup>75-79</sup>

There has been recent renewed interest in the association between hyperuricemia and the risk of cardiovascular disease (CVD), and use of serum uric acid levels to improve the

prediction of cardiovascular events (CVE). Previous studies examining relation of SUA levels to the risk of CVD were conducted among either a healthy population (without gout) or a population at high cardiovascular risk, including those with type II diabetes, the overweight/obese, or patients with history of myocardial infarction. Yet serum uric acid failed to show an association in some studies,<sup>80-82</sup> while an association and ability to predict CV prognosis was evident in other studies.<sup>83, 84</sup> Despite the fact that gout has a high unfavorable traditional cardiovascular risk profile, the feasibility to measure SUA, and availability of several therapies targeting hyperuricemia, only a few studies evaluated serum uric acid level among patients with gout.<sup>85, 90</sup> In which used SUA as high or low, other study only calculate CVS mortality in general not specifically MI. It is important to determine if this relationship exist among people with gout because it may lead to new approach to aggressively screen and treat of high SUA.

### **Specific Objective**

In this study we propose to examine the association between levels of serum uric acid and risk of MI among gout patients. Few studies to date have examined the risk of MI among gout patients.<sup>75, 86, 87</sup> To date, studies of gout in relation to risk of MI have not associated whether serum uric acid level was associated with risk of MI among gout patients.<sup>88, 89</sup> Thus, this study sought to evaluate the relationship between baseline SUA and myocardial infarction among persons with gout. The results of this study will help to establish the following:

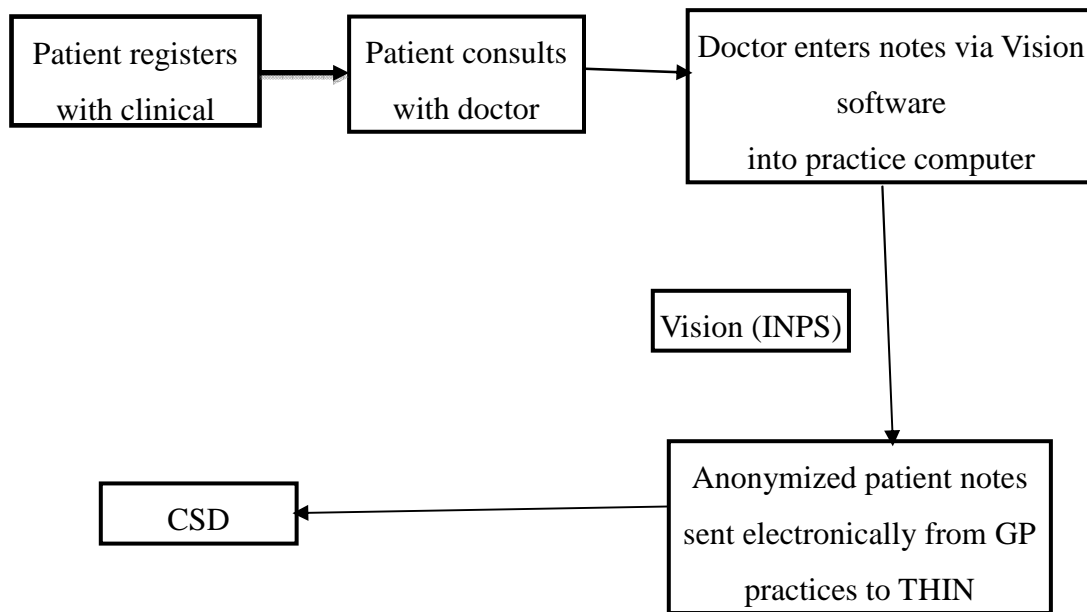
- 1- Determine if there is an association between SUA and risk of MI.

- 2- Determine if there is a cut off point for SUA concentration that might increase the risk of MI among persons with gout.

## METHODS

### Study Population Database

This study was conducted using data collected from "The Health Improvement Network" (THIN) from the United Kingdom. THIN is a computerized medical record database of the UK population entered by a general practitioner (GP). Since the THIN data collection began in 2003, 578 clinical practices have contributed to this database, collecting data from approximately twelve million individuals.<sup>91</sup> The National Health System (NHS) in the UK requires every individual to be registered with a GP regardless of health status, thus the THIN database widely represents the general UK population.<sup>91</sup> THIN includes anonymized, detailed clinical information about patient visits to their GP, such as a demographic information, diagnoses, medications, laboratory test results, socioeconomic status, and additional health information recorded systematically including height, weight, blood pressure, smoking, and alcohol consumption.<sup>91</sup> To code diagnoses and prescription medications, Read and Multilex classifications were used, respectively.<sup>92,93</sup> Of note, Read and Multilex have been widely validated for use in pharmacoepidemiological research.<sup>94,95</sup> The THIN database includes approximately 5.93% of the total population of the United Kingdom.<sup>94</sup> THIN is a detailed dataset well suited for cost-efficient, generalizable studies of gout and cardiovascular diseases. This database contains detailed health histories for each individual from initial work-up, diagnosis, and treatment.



**Figure 3. THIN Database**

### **Study Design**

We conducted a cohort study to assess the relation of SUA levels to the risk of myocardial infarction among patients with gout using the THIN database.

### **Study Population**

Included in the analysis were subjects who met the following criteria:

Inclusion criteria:

- 1- New diagnosis of gout: the gout diagnosis was established based on the recording of a relevant diagnostic code after at least two years of continuous enrollment in THIN without a gout diagnosis, in addition to use of one or more of anti-gout medications (allopurinol, colchicine, or probenecid).<sup>96, 97</sup>

- 2- Age - 18 to 89 years.
- 3- At least one SUA measurement either; 30 days before a gout diagnosis or within one year after the diagnosis.
- 4- Registered in THIN data between 2000 and 2012.

Exclusion criteria:

- 1- Individuals who had MI before the gout diagnosis.

**Study Duration:**

Follow-up for study subjects started on the date of measurement of first SUA and continued until:

- 1- First myocardial infarction (MI).
- 2- Age of 90
- 3- Death.
- 4- Disenrollment in THIN database, or end of study period, whichever came first.

**Exposure Definition:**

As mentioned above presence of one serum uric acid measurement is required to be including in this study. The baseline SUA levels were divided into five categories: <6 mg/dl, 6-<7 mg/dl, 7-<8 mg/dl, 8-<9 mg/dl, and >9 mg/dl. In the case of having more than one SUA measurement, the closest value following the gout diagnosis was used. In

some cases there were only one SUA measurement before gout diagnosis which has been used if it happens within 30 days of gout diagnosis.

### **Primary Outcome:**

In the current study the primary outcome was a new diagnosis of first myocardial infarction (either non-fatal or fatal MI) using the READ diagnostic code (see supplement). These codes have been successfully applied in the study of MI morbidity and mortality.<sup>98-105</sup>

### **Covariate Assessment**

Socio-demographic and lifestyle characteristics were collected in the database before the diagnosis of gout. This included sex, age, BMI, smoking and drinking status. Additionally, information about comorbidities that were thought as potential risk factors for myocardial infarction, were also recorded in THIN, including hypertension, diabetes mellitus, and chronic kidney disease. In the same manner, prescribed drug records for angiotensin converting enzyme inhibitors (ACEI), aspirin, beta-blockers, lipid lowering agents, anti-platelet agents, and diuretics were obtained. Information of covariates were collected prior to the assessment of SUA.

### **Institutional Review Board (IRB) Review**

This study was determined to be exempt by the Institutional Review Board of Boston University Medical Campus and Boston Medical Center.

### **Statistical Analysis**

Baseline characteristics were compared across categories of SUA levels using analysis of variance (ANOVA) for continuous variables, and chi-squared tests for categorical variables.

Sex-specific incidence rates of MI according to categories of SUA level were calculated.

Cox proportional hazard regression models were used to examine the relation of SUA levels to risk of incident MI for men and women separately. In the multivariable regression model, adjustments were made for the following variables: age, body mass index category<sup>106</sup> (i.e., underweight  $<18.5 \text{ kg/m}^2$ , normal  $\geq 18.5$ - $<25 \text{ kg/m}^2$ , overweight  $\geq 25$ - $<30 \text{ kg/m}^2$ , and obesity  $\geq 30 \text{ kg/m}^2$ ), smoking status (i.e., never, former, and current smoker) alcohol consumption (i.e., never, former, current drinker), medications (i.e., aspirin, ACEI, beta-blockers, anti-platelet agents, diuretics, and lipid lowering agents), and comorbidities (i.e., diabetes mellitus, hypertension, chronic kidney disease). For missing categorical variables, a missing category was created to indicate the missing value.

Several sensitivity analyses were performed to check the robustness of the study findings. These included: (1) consideration of SUA as a dichotomous variable ( $<6 \text{ mg/dL}$

versus >6) i.e. 6 is the general goal of antihyperuricemic medication; (2) exclusion of subjects with any missing values for smoking, alcohol use or BMI; (3) use of SUA measurement after uric acid lowering therapy (ULT) within one year after diagnosis of gout.

All analysis were conducted using SAS (Statistical Analysis System) 9.2, provided by SAS Institute Inc.

## RESULTS

Included were 12,180 individuals who met the definition of gout and who had at least one measurement of baseline SUA. Of them, 70% (n=8539) were men.

Baseline characteristics of men are shown in Tables 1. The average age at the time of study was 59 years. More than 70% of male subjects were overweight/ obese. Less than 50% were non-smokers, while more than 75% were current alcohol drinkers. There were similar percentages of overall cardioprotective medication use in each group of SUA levels except for  $SUA \geq 9$ , which showed a high percentage of overall medication use, for instance, more than 50 % of this group use diuretics. Prevalence of diabetes mellitus, and kidney disease within each group of SUA was similar, however, each group of SUA level tended to have high prevalence of hypertension (i.e. more than 53% of  $SUA \geq 9$  group has hypertension).

**Table 1. Baseline Characteristics of Male Subjects (N= 8539)**

Baseline Characteristics	Serum Uric Acid Concentration (mg/dL)					p-value
	<6	6-7	7-8	8-9	$\geq 9$	
N*	1073	1074	2145	2147	2070	
Age (mean $\pm$ SD**)	60.8 $\pm$ 13.7	60.4 $\pm$ 13.4	58.5 $\pm$ 13.9	57.6 $\pm$ 14.7	58.4 $\pm$ 16.4	<.0001

BMI*** Category (%)						<.0001
Normal	18.8	17.4	13	15	15	
Overweight	40.9	40.3	41.2	38.8	35.8	
Obesity	28	30.9	33.1	35.1	36.6	
Missing	12	11.4	12.5	11	12.2	
Drinking Status (%)						0.4880
Non Drinker	7.8	7.4	7.5	7.3	7.8	
Former Drinker	2.5	2.6	0.5	1.6	2.2	
Current Drinker	78	79.1	78.8	80.8	79.6	
Missing	11.7	11	12	10.3	10.4	
Smoking Status (%)						0.0008
Non Smoker	44.7	47.3	49.9	48	42.6	
Former Smoker	36.1	36.1	34.3	36.8	39.6	
Current Smoker	15.8	13.6	12.6	14.7	14.7	
Missing	3.4	3	3.2	3.1	3.1	
Medicine History (%)						
ACEI****	26.4	26.4	24.9	25.6	36.7	<.0001
Aspirin	17.5	14.3	12.9	14.1	19.1	<.0001
Beta-blockers	17.9	19.9	18.9	18.7	28.1	<.0001
Lipid-lowering	30.8	28.4	24.9	24.5	28.6	0.0001
Anti-platelet	3	2.7	1.4	2.3	2.8	0.0098
Diuretics	29.6	29.9	28.3	33.1	50.1	<.0001
Comorbidity (%)						
Diabetes	11.5	8.8	8.1	7.6	11.7	<.0001
Hypertension	46.5	46.5	43	44.3	53.1	<.0001
Kidney disease	9	9.4	9.1	11	20.8	<.0001

\*Number of subjects (N)

\*\*Standard Deviation (SD)

\*\*\*Body Mass Index (BMI)

\*\*\*\*Angiotensin converting enzyme inhibitors (ACEI)

Baseline characteristics of women are shown in Table 2. The average age was 69 years. More than 75% of subjects were overweight or obese, and approximately 65% were current drinkers, and approximately 40% were current or ex-smoker. Medication use tended to vary within each group of SUA level, with diuretics being the highest percentage of medication use within each group (i.e. approximately 90 % diuretics user among SUA  $\geq 9$  group). Prevalence of hypertension within each group was higher than diabetes mellitus and kidney disease (i.e. more than 80% have hypertension among SUA  $\geq 9$  group).

**Table 2. Baseline Characteristics of Female Subjects (N= 3641)**

Baseline Characteristics	Serum Uric Acid Concentration (mg/dL)					p-value
	<6	6-7	7-8	8-9	$\geq 9$	
N*	817	574	732	643	875	
Age (mean $\pm$ SD**)	65.2 $\pm$ 13	67.7 $\pm$ 12.9	69.3 $\pm$ 12.1	71.3 $\pm$ 11.1	72.3 $\pm$ 11.3	<.0001
BMI***						0.0004
Category (%)						
Normal	17.9	13.2	13	14.5	14.4	
Overweight	32	28.9	30.9	31.1	25	
Obesity	42.5	49.7	49.5	47.7	53.1	
Missing	6.4	7.3	6	6	6.5	
Drinking Status (%)						0.0871
Non Drinker	22.8	24.4	24.2	22.9	28.6	
Former Drinker	2.7	3.7	2.1	2.2	3.2	
Current Drinker	66.5	61.7	65.6	66.9	60.2	
Missing	8.1	10.3	8.2	8.1	8	

Smoking Status (%)						0.0012
Non Smoker	57	54.9	60.3	55.8	57.9	
Former Smoker	27.3	31.5	28.4	32	31.5	
Current Smoker	14.2	11.3	9.6	10	8.5	
Missing	1.5	2.3	1.8	2.2	2	
Medicine History (%)						
ACEI****	29.4	35	35.1	43.1	47	<.0001
Aspirin	19	22.3	24.3	28	28.3	<.0001
Beta-blockers	22	27.4	33.2	38.1	42.2	<.0001
Lipid-lowering	30.5	33.6	38	39.4	39.9	<.0001
Anti-platelet	2.1	2.3	2.7	2.8	5.4	0.0007
Diuretics	49.1	60.5	66.8	77.1	89.7	<.0001
Co morbidity (%)						
Diabetes	14.2	18.1	16.7	21	19.9	0.0048
Hypertension	56.4	67.3	72.7	77.6	81.9	<.0001
Kidney disease	14.8	24.6	27.7	32.8	43.5	<.0001

\*Number of subjects (N)

\*\*Standard Deviation (SD)

\*\*Body Mass Index (BMI)

\*\*\*Angiotensin converting enzyme inhibitors (ACEI)

During the follow up period, 200 subjects (145 men and 55 women) experienced an MI (Table 3). The average follow-up years (Time to first MI) was 4 years in men and 3.7 years in women. The total years of follow-up in men was 33695 and 12588 in women, respectively. The incidence rate of MI for each of the SUA categories in men was 4.3, 5.4, 4.2, 3.6, and 4.6 case per 1000 person years for SUA categories <6, 6-7, 7-8, 8-9, and >9 mg/dl, respectively. The corresponding incidence rate of MI in women was 3.7, 4.0, 5.1, 3.3, and 4.1, respectively.

**Table 3. MI Incident Rate Among SUA Group and Sex**

	No. of subjects	No. of MI*	Person-years of follow up	Incidence rate (cases/1000 person-yrs)
<b>Male</b>				
<6	1073	20	4666.6	4.3
6- 7	1074	24	4420.3	5.4
7- 8	2175	35	8347.4	4.2
8- 9	2147	30	8433.8	3.6
≥9	2070	36	7826.8	4.6
<b>Female</b>				
<6	817	12	3284.0	3.7
6- 7	574	9	2246.1	4.0
7- 8	732	12	2697.0	4.5
8- 9	643	12	2346.8	5.1
≥9	875	10	3014.1	3.3
<b>Combined</b>				
<6	1890	32	7950.6	4.02
6- 7	1648	33	6666.5	4.95
7- 8	2907	47	11044.5	4.26
8- 9	2790	42	10780.6	3.90
≥9	2945	46	10840.8	4.24

\*Myocardial Infarction

As shown in n Table 4, compared with subjects in the lowest category of serum uric acid, the crude hazard ratio of MI in men were 1.27 (95% CI: 0.70-2.30), 0.97 (95% CI: 0.56-1.69), 0.83 (95% CI: 0.47-1.46), and 1.07 (95% CI: 0.62-1.84), respectively, for each of the SUA categories, respectively. Further adjustments for age and other covariates did not change the magnitude of association substantially. Similar results were

also observed in women. When data for men and women were combined, multivariable adjusted hazard ratios of MI were 1.18 (95% CI: 0.72-1.92), 1.06 (95% CI: 0.68-1.67), 0.97 (95% CI: 0.61-1.54), and 0.93 (95% CI: 0.58-1.48), respectively.

**Table 4. Relationship between SUA and Risk of MI**

	Crude HR (95% CI)	Age adjusted HR (95% CI)	Multivariate adjusted HR *(95% CI)**
<b>Male</b>			
<6	1.00 (referent)	1.00 (referent)	1.00 (referent)
6-7	1.27 (0.70-2.30)	1.27 (0.70-2.30)	1.30 (0.72-2.36)
7-8	0.97 (0.56-1.69)	1.05 (0.61-1.82)	1.11 (0.64-1.92)
8-9	0.83 (0.47-1.46)	0.92 (0.52-1.62)	0.95 (0.54-1.69)
>9	1.07 (0.62-1.84)	1.14 (0.66-1.97)	1.06 (0.60-1.87)
<b>Female</b>			
<6	1.00 (referent)	1.00 (referent)	1.00 (referent)
6-7	1.09 (0.46-2.60)	0.97 (0.41-2.31)	0.93 (0.39-2.25)
7-8	1.20 (0.54-2.67)	1.00 (0.45-2.24)	0.98 (0.44-2.22)
8-9	1.39 (0.62-3.09)	1.06 (0.48-2.38)	1.01 (0.44-2.29)
>9	0.90 (0.39-2.07)	0.66 (0.28-1.54)	0.63 (0.26-1.52)
<b>Combined</b>			
<6	1.00 (referent)	1.00 (referent)	1.00 (referent)
6-7	1.23 (0.76-2.00)	1.21 (0.74-1.97)	1.18 (0.72-1.92)
7-8	1.05 (0.67-1.65)	1.10 (0.70-1.72)	1.06 (0.68-1.67)
8-9	0.97 (0.61-1.53)	1.02 (0.64-1.61)	0.97 (0.61-1.54)
>9	1.05 (0.67-1.64)	1.03 (0.66-1.62)	0.93 (0.58-1.48)

\*Adjusted for age, BMI, smoking, alcohol consumption, medications (aspirin, ACEI, beta blockers, anti-platelets, diuretics, and lipid lowering agents), comorbidities (type II diabetes, hypertension, and kidney disease).

\*\*CI= Confidence interval

A sensitivity analysis was conducted to assess the association of SUA levels and risk of MI using hyperuricemia as a dichotomous variable (<6mg/dl versus  $\geq$  6mg/dl) (Table 5). In male subjects with hyperuricemia (SUA> 6mg/dl), the HR was 1.07 (95% CI: 0.67-1.72) in the age adjusted model and was 1.09 (95% CI: 0.68-1.75) in the multivariate adjusted model. In female subjects, the HR for the age adjusted and multivariate adjusted model was 0.91 (95% CI: 0.48-1.73) and 0.88 (95% CI: 0.45-1.71), respectively.

**Table 5. Relationship of Dichotomous SUA and Risk of MI**

	Crude HR (95% CI)	Age adjusted HR (95% CI)	Multivariate adjusted HR *(95% CI)**
Male			
<6mg/dl	1.00	1.00	1.00
>6mg/dl	1.00 (0.62-1.61)	1.07 (0.67-1.72)	1.09(0.68-1.75)
Female			
<6mg/dl	1.00	1.00	1.00
>6mg/dl	1.13 (0.60-2.15)	0.91 (0.48-1.73)	0.88 (0.45-1.71)
Combined			
<6mg/dl	1.00	1.00	1.00
>6mg/dl	1.06 (0.72-1.54)	1.08 (0.74-1.57)	1.03 (0.70-1.50)

\*Adjusted for age, BMI, smoking, alcohol consumption, medications (aspiring, ACEI, beta blockers, anti-platelets, diuretics, and lipid lowering agents), comorbidities (type II diabetes, hypertension, and kidney disease).

\*\*CI= Confidence interval

- 1- A complete-data analysis was performed to examine the association between SUA levels and risk of MI. In this analysis, 2841 (2220 men and 621 women) individuals with missing information of smoking, BMI, and/or alcohol intake were excluded. Of the remainders (n=10354), 172 subjects developed MI during

the follow-up period, 123 occurred in men and 49 in women. Compared with subjects in the lowest category of SUA, the crude HRs of MI in each SUA group as 1.42 (95% CI: 0.74-2.73), 0.94 (95% CI: 0.50-1.74), 0.90 (95% CI: 0.49-1.69), and 1.24 (95% CI: 0.68-2.26), respectively, in men. Multivariable-adjusted HRs did not change significantly. Women subjects showed similar pattern in crude and adjusted model. Excluding missing categories did not change the results of our primary analysis.

**Table 6. Relationship between SUA and Risk of MI After Excluding Missing Data**

	Crude HR (95% CI)	Multivariate adjusted HR *(95% CI)**
<b>Male</b>		
<6	1.00	1.00
6-7	1.42 (0.74-2.73)	1.43 (0.75-2.74)
7-8	0.94 (0.50-1.74)	1.06 (0.57-1.97)
8-9	0.90 (0.49-1.69)	1.00 (0.53-1.87)
>9	1.24 (0.68-2.26)	1.00 (0.65-2.22)
<b>Female</b>		
<6	1.00	1.00
6-7	0.80 (0.30-2.17)	0.74 (0.27-2.02)
7-8	1.21 (0.52-2.80)	1.05 (0.45-2.45)
8-9	1.51 (0.67-3.42)	1.15 (0.50-2.68)
<9	0.86 (0.36-2.10)	0.66 (0.26-1.68)
<b>Combined</b>		
<6	1.00	1.00
6-7	1.22 (0.71-2.08)	1.14 (0.67-1.95)
7-8	1.02 (0.62-1.67)	1.02 (0.62-1.68)
8-9	1.05 (0.64-1.73)	1.03 (0.62-1.69)

<9	1.15 (0.71-1.86)	1.00 (0.61-1.65)
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\*Adjusted for age, BMI, smoking, alcohol consumption, medications (aspiring, ACEI, beta blockers, anti-platelets, diuretics, and lipid lowering agents), comorbidities (type II diabetes, hypertension, and kidney disease).

\*\*CI= Confidence interval

A third sensitivity analysis was performed using the first SUA value after urate lowering therapy (ULT) as the exposure; again this was considered as categorical variables. However, the number of new MI cases was small. Of the 3671 male subjects included in the analysis 55 subjects experienced an MI. There were 1467 female subjects included in this analysis, with 19 new cases of MI. Thus, further analyses to assess the association between SUA levels and risk of MI were not performed because the small number of events in each SUA categories may have generated unstable effect estimates. In this analysis sample size across SUA levels were small, and in the case of SUA higher than 6 mg/dl groups there were only two cases of MI in each group.

**Table 7. Relationship of SUA after using ULT\* and risk of MI**

	No. MI**	Person-years of follow-up	Incidence rate (per 1000 P-YRS)	Crude HR (95% CI)***
Male				
<6mg/dl	16	6269.34	2.55	1.00
6-7mg/dl	16	4157.89	3.85	1.90 (0.62-5.84)
7-8mg/dl	7	3599.20	1.94	1.59 (0.56-4.84)
8-9mg/dl	12	2433.40	4.93	1.66 (0.59-4.59)
>9mg/dl	4	2050.37	1.95	1.54 (0.54-4.36)

Female				
<6mg/dl	8	3286.68	2.43	1.00
6-7mg/dl	5	1239.92	4.03	4.69 (0.47-46.24)
7-8mg/dl	2	995.55	2.01	3.61 (0.37-35.32)
8-9mg/dl	2	567.69	3.52	6.93 (0.82-58.42)
>9mg/dl	2	610.01	3.28	3.44 (0.39-30.37)

\*Urate Lowering Therapy

\*\* Myocardial Infarction

\*\*\* Confidence Interval

## DISCUSSION

This large cohort study of subjects with gout demonstrated that the incidence of MI was not associated with SUA levels. This was consistent in the age-adjusted and fully adjusted models for both men and women.

Many studies have examined the relationship between high SUA and risk of cardiovascular mortality and morbidity including MI. The findings, however, were conflicting. While several studies have shown that SUA level is associated with an increased risk of cardiovascular morbidity and mortality,<sup>71-72, 77, 83-84</sup> specifically MI,<sup>73-74</sup> other large cohort studies, such as the Framingham Heart Study, the Atherosclerosis Risk in Communities (ARIC) study, and more recently,<sup>75-76</sup> some high risk population studies (e.g. Type II diabetes, and overweight/obese persons) found no independent association between SUA levels and the incidence of CVD, particularly MI.<sup>78-82</sup>

The main reasons for these conflicting results include differences among study population examine for example, in the gout population whereby different definitions of gout are used in each study (i.e. self reported gout, documented diagnosis, documented diagnosis +use of anti-gout medications). In addition, some of these studies used a high-risk study population such as those with previous history of MI, and other CHD comorbidities. This high-risk population will have a higher tendency to develop subsequent CV events or death. Furthermore, other studies failed to account for cardiovascular risk factors in their analysis, including hypertension, diabetes, high

cholesterol, and smoking status. Thus this could bias the results toward the presence of an association. In the current study, the study population was defined using a special gout definition (gout diagnosis + anti-gout medication + SUA), and excluded any subject with previous MI or other CHD comorbidities; moreover, this study assessed all possible potential confounders in the main analysis to get the most pure possible relation between SUA and risk of MI among gout.

In this study, different levels of baseline serum uric acid levels were used in persons with gout to assess the effect of SUA on the risk for MI. No association of any kind was found whether dependent or independent, and this finding did not change after using the fully adjusting model, and sensitivity analysis tests. Recently two studies have reported an increase risk of MI among the gout population compared to the non-gout population;<sup>88,89</sup> however, neither of these two studies has examined the relation of SUA levels to risk of MI, because of unavailability of data on SUA in their database. Their explanation based on their findings could suggest that the risk of MI could be mediated through the inflammatory process and released mediators when patients experienced an acute gout attack.<sup>88,89</sup> SUA could increase the risk of MI through indirect pathways either through gout or an increased risk of related cardiovascular risks such as hypertension, diabetes type II, high cholesterol.<sup>89</sup>

Furthermore, Seminog OO et al. did not control for very important potential confounders including smoking, hypertension, dyslipidemia, alcohol status, BMI, and medication

used. As such, their findings could be a result of not considering these important factors in their model. In the current study, all potential confounders were included in main analysis including the fully adjusted model to overcome of any unwanted potential effect. In addition, current study used SUA levels in gout population to examine relation of SUA level and risk of MI. Both approaches further strengthen this study's finding.

Stack et al., using the NHANES III dataset, examined SUA levels in relation to cardiovascular mortality and all-cause mortality among gout and non-gout subjects. They, along with many previous studies, were able to confirm an independent association. In this study CV mortality risk was higher with each increase of SUA quartiles; this was consistent in both men and women. A similar pattern of association was found between SUA quartiles and all-cause mortality. In addition, they were able to find an association when they examined CV mortality, all-cause mortality (i.e. cardiovascular and non-cardiovascular cause of mortality) with gout. However, the investigators did not assess the effect on MI. Cardiovascular mortality could have resulted from some other heart conditions. Furthermore, it might be related to the level of health awareness, or presence of additional risk factors. For instance, the presence of high serum concentrations of inflammatory markers in those with gout disease might have explained the high percentage of mortality among these subjects compared to subjects without gout.<sup>85</sup>

In general there are some explanations for the differences found in the previous findings, including:

- 1- Different study population characteristics such as male only, women only, or including a high-risk population with a history of ischemic heart disease (IHD) or previous MI.
- 2- Evidence has shown that serum uric acid is associated with CVD risk factors such as diabetes, hypertension, and metabolic syndrome. Thus, an association between serum uric acid and CVD, particularly MI, is plausible, however, this association may not be the direct result of serum uric acid concentrations. This indirect mechanism could be mediated through the duration of exposure to serum uric acid; the longer the exposure to SUA, the greater the potential to develop an MI. Second, this could be mediated through gout (not high serum uric acid levels) via the effect of chronic inflammation,<sup>107, 108</sup> or the development of high risk conditions (for MI) such as diabetes, hypertension, and obesity.<sup>109</sup>

### **Strengths**

This was a large cohort study using a UK representative validated database network. This study was able to account for many possible confounders including, comorbidities (diabetes type II, hypertension, kidney disease), smoking, alcohol, medication use (diuretics, aspirin, ACEI, B-blockers), and obesity.

This study was able to exclude subjects with high risk factors including those with previous history of ischemic heart disease (IHD) and MI, thus minimizing any carry over effect of established IHD. Finally in the current analysis, the GP's diagnosis of gout was used; specific medications used for the treatment of gout was considered, and SUA testing was performed to define gout subjects; thus the gout diagnosis in this study is accurate. Such approach has been used in previous studies in THIN as well.

### **Limitations**

Several limitations of the study are worth noting. First, the percentage of missing information on several important confounders was relatively high. For example, approximately 3.16%, 10.08%, and 11.84 male subjects did not have information on smoking, alcohol consumption, and BMI, respectively. Similarly, 1.96%, 8.54%, and 6.44% and 1.96 female subjects did not have information on smoking status, alcohol consumption, and BMI, respectively. However, when analyses were performed using complete-subject approach (i.e. excluded everyone with missing information from the analyses), the results did not change significantly. Nevertheless, in the future analysis, imputation methods should be considered to predict and fill in the missing values based on the observed data to see if the findings would change.

### Residual confounding

Other potential confounders, such as diet and race were not collected in the THIN dataset. These factors may affect the study findings as well. For example, some high-purine content foods such as red meat are not only associated with SUA levels, but are also related to risk of CHD.<sup>110</sup> According to some epidemiological data, certain races have a high risk of developing gout and CHD specifically MI, such as African Americans.<sup>111, 112, 113</sup>. However, it is unlikely these factors had any effect on current study's finding e.g. red meat, it is correlated with high SUA level and increase risk of MI, but here high SUA level is not associated with increased risk of MI.

### Misclassification

There is the possibility of misclassification between categories such as in the case of serum uric acid levels. SUA levels fluctuate over-time as a result of the progress of gout disease and/or because of anti-gout medications. In this study, only one serum uric acid measurement was available for the majority of subjects (i.e. more than 2/3 of subjects), thus some subjects could be misclassified at the time of event (MI) based on their baseline serum uric acid level. Furthermore, for those who received urate lowering medication, the majority did not have SUA measurement after medication, thus SUA groups during follow up period till time to event could have been misclassified. This could influence current study's findings (i.e. overestimate or underestimate relation of SUA level and risk of MI). This study was unable to assess the extent of this issue.

Additional limitations:

Serum uric acid

In this study, only subjects who had at least one baseline SUA measurement were included as part of the gout definition. As mentioned above, the majority of subjects had only one serum uric acid measurement, thus this study was unable to assess if the change in SUA over time predicted MI risk. Furthermore, SUA levels may change over time owing to uric lowering therapy. However, such data were not collected in many subjects in this study, thus limiting the ability to perform a time-varying exposure analysis.

### **Future Study Plans**

Based on current study database problems and analysis issues, it would be appropriate to consider the following future study designs:

- 1- A Meta-analysis including any gout population based study using SUA, MI
- 2- Collect data prospectively for subjects diagnosed with gout to include SUA and all potential covariates.
- 3- Use a different database with as complete information as possible such as diet, race, and level of education. To assess the effect of these covariates on SUA and risk of MI
- 4- A clinical trial to study the effect of urate lowering therapy on serum uric acid level and risk of MI.
- 5- A clinical trial to determine the effect of treating asymptomatic hyperuricemia on risk of MI.

## **Conclusion**

This large retrospective cohort study found that SUA levels assessed at baseline were not associated with risk of MI among subjects with gout.

Next step, to better answer this study question, would be to recommend a long term prospective study or use a different database containing more complete information.

Further research is needed to determine if changes in SUA after uric-lowering therapy is associated with the risk of MI among gout patients.

## APPENDIX

### Myocardial Infarction Read Codes and Description

Description	Read Code
Acute transmural myocardial infarction of unspecified site	Gyu3400
Other current complications following acute myocardial infarct	Gyu3100
Subsequent myocardial infarction of other sites	Gyu3500
Subsequent myocardial infarction of unspecified site	Gyu3600
Acute anteroapical infarction	G301000
Acute anterolateral infarction	G300.00
Acute anteroseptal infarction	G301100
Acute atrial infarction	G30y000
Acute coronary insufficiency	G31y000
Acute coronary syndrome	G311500
Acute inferolateral infarction	G302.00
Acute inferoposterior infarction	G303.00
Acute myocardial infarction	G30..00
Acute myocardial infarction NOS	G30z.00
Acute non-Q wave infarction	G307000
Acute non-ST segment elevation myocardial infarction	G307100
Acute papillary muscle infarction	G30y100
Acute posterolateral myocardial infarction	G30B.00
Acute Q-wave infarct	G309.00
Acute septal infarction	G30y200
Acute ST segment elevation myocardial infarction	G30X000
Acute subendocardial infarction	G307.00
Acute transmural myocardial infarction of unspecified site	G30X.00
Admit ischaemic heart disease emergency	8H2V.00
Aneurysm of coronary vessels	G341200
Angina at rest	G311.14
Angina at rest	G311200
Angina control	662K.00
Angina control – good	662K000
Angina control – improving	662K200
Angina control – poor	662K100
Angina control – worsening	662K300

Angina control NOS	662Kz00
Angina decubitus	G330.00
Angina decubitus NOS	G330z00
Angina on effort	G33z300
Angina pectoris	G33..00
Angina pectoris NOS	G33z.00
Angina pectoris NOS	G33zz00
Anterior myocardial infarction NOS	G301z00
Arteriosclerotic heart disease	G3...11
Asymptomatic coronary heart disease	G34z000
Atherosclerotic cardiovascular disease	G342.00
Atherosclerotic heart disease	G3...12
Atrial septal defect/current complication following acute myocardial infarction	G361.00
Attack – heart	G30..11
Cardiac aneurysm	G341.11
Cardiac rupture following myocardial infarction (MI)	G30..13
Certain current complication follow acute myocardial infarct	G36..00
Chronic coronary insufficiency	G34y000
Chronic myocardial ischaemia	G34y100
Coronary artery disease	G340.12
Coronary artery spasm	G332.00
Coronary atherosclerosis	G340.00
Coronary thrombosis	G30..12
Coronary thrombosis not resulting in myocardial infarction	G312.00
Crescendo angina	G311.11
Diabetes mellitus insulin-glucose infusion acute myocardial infarct	889A.00
Double coronary vessel disease	G340100
Dressler's syndrome	G310.11
ECG: antero-septal infarct.	3233.00
ECG: lateral infarction	3236.00
ECG: myocardial infarct NOS	323Z.00
ECG: old myocardial infarction	3232.00
ECG: subendocardial infarct	3235.00
ECG:posterior/inferior infarct	3234.00
H/O: myocardial infarct <60	14A3.00
H/O: myocardial infarct >60	14A4.00
H/O: Myocardial infarction in last year	14AH.00

Haemopericardium/current comp following acute myocardial infarct	G360.00
Healed myocardial infarction	G32..11
Heart attack	G30..14
History of myocardial infarction	14AT.00
IHD - Ischaemic heart disease	G3...13
Impending infarction	G311.12
Inferior myocardial infarction NOS	G308.00
Ischaemic cardiomyopathy	G343.00
Ischaemic chest pain	G33z400
Ischaemic heart disease	G3...00
Ischaemic heart disease NOS	G3z..00
Lateral myocardial infarction NOS	G305.00
MI - acute myocardial infarction	G30..15
MI - myocardial infarction aborted	G311011
Microinfarction of heart	G31y100
Mural thrombosis	G30A.00
Myocardial infarction aborted	G311000
New onset angina	G33z600
Nocturnal angina	G330000
Old myocardial infarction	G32..00
Other acute and subacute ischaemic heart disease	G31..00
Other acute and subacute ischaemic heart disease	G31y.00
Other acute and subacute ischaemic heart disease NOS	G31yz00
Other acute myocardial infarction	G30y.00
Other acute myocardial infarction NOS	G30yz00
Other chronic ischaemic heart disease	G34..00
Other chronic ischaemic heart disease NOS	G34z.00
Other specified anterior myocardial infarction	G301.00
Other specified chronic ischaemic heart disease	G34y.00
Other specified chronic ischaemic heart disease NOS	G34yz00
Other specified ischaemic heart disease	G3y..00
Personal history of myocardial infarction	G32..12
Post infarct angina	G33z500
Posterior myocardial infarction NOS	G304.00
Postmyocardial infarction syndrome	G310.00
Postoperative myocardial infarction	G38..00

Postoperative myocardial infarction, unspecified	G38z.00
Postoperative subendocardial myocardial infarction	G384.00
Postoperative transmural myocardial infarction anterior wall	G380.00
Postoperative transmural myocardial infarction inferior wall	G381.00
Postoperative transmural myocardial infarction other sites	G382.00
Postoperative transmural myocardial infarction unspec site	G383.00
Preinfarction syndrome	G311.00
Preinfarction syndrome NOS	G311z00
Prinzmetal's angina	G331.00
Refractory angina	G311300
Rupture cardiac wall without haemopericard/current complication following acute MI	G363.00
Rupture chordae tendinae/current complication following acute myocardial infarct	G364.00
Rupture papillary muscle/current comp following acute myocardial infarct	G365.00
Silent myocardial infarction	G30..17
Silent myocardial ischaemia	G344.00
Single coronary vessel disease	G340000
Stable angina	G33z700
Status anginosus	G33z000
Stenocardia	G33z100
Subendocardial ischaemia	G31y200
Subsequent myocardial infarction	G35..00
Subsequent myocardial infarction of anterior wall	G350.00
Subsequent myocardial infarction of inferior wall	G351.00
Subsequent myocardial infarction of other sites	G353.00
Subsequent myocardial infarction of unspecified site	G35X.00
Syncope anginosa	G33z200
Thrombosis – coronary	G30..16
Thrombosis atrium,auric append&vent/current complication following acute MI	G366.00
Transient myocardial ischaemia	G31y300
Triple vessel disease of the heart	G340.11
True posterior myocardial infarction	G306.00

Unstable angina	G311.13
Unstable angina	G311100
Variant angina pectoris	G331.11
Ventricular septal defect/current complication following acute myocardial infarction	G362.00
Worsening angina	G311400

### Gout Read Code and Description

Description	Read Code
Gout	C34..00
H/O: gout	1443.00
Gout monitoring	669..00
Gouty arthropathy	C340.00
Gout NOS	C34z.00
Gouty arthritis	N023.00
Gouty tophi of hand	C34y500
Gouty arthritis NOS	N023z00
Gouty tophi of other sites	C34y200
Gout treatment changed	6699.00
Gouty arthritis of the ankle and foot	N023700
Gout due to impairment of renal function	C345.00
Follow-up gout assessment	6692.00
Date gout treatment started	6695.00
Gout monitoring NOS	669Z.00
Gouty tophi of ear	C34y000
Gouty nephropathy	C341.00
Idiopathic gout	C342.00
Gouty arthritis of the hand	N023400
Drug-induced gout	C344.00
Gouty arthritis of toe	N023800
Joints gout affected	6693.00
Date of last gout attack	6696.00
Other specified gouty manifestation NOS	C34yz00
Other specified gouty manifestation	C34y.00
Pre-treatment uric acid level	6694.00
Date gout treatment stopped	669A.00
Gouty arthritis of the lower leg	N023600
Gouty iritis	C34y300

Gouty tophi of heart	G557300
Gouty arthritis of the forearm	N023300
Gout associated problems	6697.00
Gout drug side effects	6698.00
Gouty arthritis of the upper arm	N023200
Gouty arthritis of other specified site	N023y00
Other secondary gout	Nyu1700
Gouty neuritis	C34y400
Gouty arthritis of multiple sites	N023x00
Gouty nephropathy unspecified	C341000
Gouty tophi of heart	C34y100
Gouty arthritis of unspecified site	N023000
Gouty nephropathy NOS	C341z00
Lead-induced gout	C343.00
Gouty arthritis of the shoulder region	N023100
Gouty arthritis of the pelvic region and thigh	N023500
Gouty arthropathy due enzyme defects +other inherited disorder CE	Nyu1C00

### **Hypertension Read Code and Description**

Benign hypertensive heart disease without CCF	G211000
Secondary malignant renovascular hypertension	G240000
Hypertension secondary to other renal disorders	Gyu2100
Hypertensive diseases	Gyu2.00
Other secondary hypertension	Gyu2000
Antihypertensive therapy	8B26.00
Attends hypertension monitor.	9OI1.00
Benign essential hypertension	G201.00
Benign essential hypertension in pregnancy/childbearing/puerperum +p/n complication	L120400
Benign essential hypertension in pregnancy /childbearing/puerpruim -not delivery	L120300
Benign hypertensive heart and renal disease	G231.00
Benign hypertensive heart disease	G211.00
Benign hypertensive heart disease NOS	G211z00
Benign hypertensive renal disease	G221.00

BP - hypertensive disease	G2...11
Cardiomegaly – hypertensive	G21z011
Diastolic hypertension	G203.00
Essential hypertension	G20..00
Essential hypertension NOS	G20z.00
Good hypertension control	6627.00
H/O: hypertension	14A2.00
High blood pressure	G20..11
Hypertension heart & renal disease +both (congestive) heart and renal fail	G234.00
Hypertension monitor 2nd letter	9OI5.00
Hypertension monitor 3rd letter	9OI6.00
Hypertension monitor phone invite	9OI8.00
Hypertension monitor verbal inv.	9OI7.00
Hypertension monitor.1st letter	9OI4.00
Hypertension monitoring admin.NOS	9OIZ.00
Hypertension 9 month review	662P000
Hypertension annual review	662d.00
Hypertension clinical management plan	8CR4.00
Hypertension induced by oral contraceptive pill	6146200
Hypertension monitoring check done	9OIA.00
Hypertension monitored	9OIA.11
Hypertension monitoring	662..12
Hypertension monitoring	662P.00
Hypertension monitoring admin.	9OI..00
Hypertension NOS	G20z.11
Hypertension secondary to drug	G24z100
Hypertension secondary to endocrine disorders	G244.00
Hypertension six month review	662c.00
Hypertension treatment started	662F.00
Hypertension treatment stopped	662H.00
Hypertension treatment refused	8I3N.00
Hypertension: follow-up default	6629.00
Hypertensive crisis	G672.11
Hypertensive disease	G2...00
Hypertensive disease NOS	G2z..00
Hypertensive encephalopathy	G672.00
Hypertensive heart and renal disease	G23..00
Hypertensive heart and renal disease NOS	G23z.00
Hypertensive heart and renal disease with renal failure	G233.00
Hypertensive heart disease	G21..00

Hypertensive heart disease NOS	G21z.00
Hypertensive heart disease NOS	G21zz00
Hypertensive heart disease NOS with CCF	G21z100
Hypertensive heart disease NOS without CCF	G21z000
Hypertensive heart & renal disease with (congestive) heart failure	G232.00
Hypertensive renal disease	G22..00
Hypertensive renal disease NOS	G22z.00
Hypertensive renal disease with renal failure	G222.00
Hypertensive retinopathy	F421300
Hypertensive treatment changed	662G.00
Malignant essential hypertension	G200.00
Malignant hypertensive heart and renal disease	G230.00
Malignant hypertensive heart disease	G210.00
Malignant hypertensive heart disease NOS	G210z00
Malignant hypertensive heart disease with CCF	G210100
Malignant hypertensive heart disease without CCF	G210000
Malignant hypertensive renal disease	G220.00
Moderate hypertension control	662b.00
On treatment for hypertension	662O.00
Other pre-exist hypertension in pregnancy/childbearing/puerprum + p/n complication	L122400
Other pre-exist hypertension in pregnancy/childbearing/puerprum -not delivery	L122300
Other pre-existing hypertension in pregnancy/childbearing/puerprum – delivery	L122100
Other pre-existing hypertension in pregnancy/childbearing/puerprum NOS	L122z00
Other pre-existing hypertension in pregnancy/childbirth/puerp unspecified	L122000
Patient on maximal tolerated antihypertensive therapy	8BL0.00
Poor hypertension control	6628.00
Pre-eclampsia or eclampsia + pre-existing hypertension NOS	L127z00
Pre-exist hypertension heart disease complication pregnancy childbirth + puerperium	L128000
Pre-exist hyperten heart renal dis comp pregnancy childbirth/puerperium	L128100

Pre-exist hypertension complication pregnancy childbirth and puerperium	L128.00
Referral to hypertension clinic	8HT5.00
Renal hypertension	G22z.11
Renal hypertension in pregnancy/childbirth/puerperium + p/n complication	L121400
Renal hypertension in pregnancy/childbirth/puerprrium -delivery with p/n complication	L121200
Secondary benign hypertension	G241.00
Secondary benign hypertension NOS	G241z00
Secondary benign renovascular hypertension	G241000
Secondary hypertension	G24..00
Secondary hypertension NOS	G24z.00
Secondary hypertension NOS	G24zz00
Secondary malignant hypertension	G240.00
Secondary malignant hypertension NOS	G240z00
Secondary renovascular hypertension NOS	G24z000
Seen in hypertension clinic	9N03.00
Seen in hypertension clinic	9N1y200
Systolic hypertension	G202.00
White coat hypertension	246M.00
Benign hypertensive heart disease with CCF	G211100
Blind hypertensive eye	F404200
Nephrosclerosis	G22..11
Other pre-existing hypertension in pregnancy/childbirth/puerperium	L122.00
Other specified hypertensive disease	G2y..00
Pre-exist 2ndry hypertension comp pregnancy childbirth and puerperium	L128200

### **Kidney Disease Read Code and Description**

<b>Description</b>	<b>Read Code</b>
H/O: kidney recipient	14S2.00
H/O: renal dialysis	14V2.00
H/O: kidney dialysis	14V2.11
Chronic kidney disease stage 3	1Z12.00
Chronic kidney disease stage 4	1Z13.00
Chronic kidney disease stage 5	1Z14.00

Chronic kidney disease stage 3A	1Z15.00
Chronic kidney disease stage 3B	1Z16.00
Chronic kidney disease stage 1 with proteinuria	1Z17.00
CKD stage 1 with proteinuria	1Z17.11
Chronic kidney disease stage 2 with proteinuria	1Z19.00
CKD stage 2 with proteinuria	1Z19.11
Chronic kidney disease stage 3 with proteinuria	1Z1B.00
CKD stage 3 with proteinuria	1Z1B.11
Chronic kidney disease stage 3A with proteinuria	1Z1D.00
CKD stage 3A with proteinuria	1Z1D.11
CKD stage 3A without proteinuria	1Z1E.11
Chronic kidney disease stage 3B with proteinuria	1Z1F.00
CKD stage 3B with proteinuria	1Z1F.11
Chronic kidney disease stage 3B without proteinuria	1Z1G.00
CKD stage 3B without proteinuria	1Z1G.11
Chronic kidney disease stage 4 with proteinuria	1Z1H.00
CKD stage 4 with proteinuria	1Z1H.11
Chronic kidney disease stage 4 without proteinuria	1Z1J.00
CKD stage 4 without proteinuria	1Z1J.11
Chronic kidney disease stage 5 with proteinuria	1Z1K.00
CKD stage 5 with proteinuria	1Z1K.11
Chronic kidney disease stage 5 without proteinuria	1Z1L.00
CKD stage 5 without proteinuria	1Z1L.11
Creation of graft fistula for dialysis	7A60600
Ligation of arteriovenous dialysis fistula	7A61900
Ligation of arteriovenous dialysis graft	7A61A00
Transplantation of kidney	7B00.00
Autotransplant of kidney	7B00000
Transplantation of kidney from live donor	7B00100
Allotransplantation of kidney from live donor	7B00111
Transplantation of kidney from cadaver	7B00200
Allotransplantation of kidney from cadaver	7B00211
Allotransplantation of kidney from cadaver, heart-beating	7B00300
Allotransplantation kidney from cadaver, heart non-beating	7B00400

Allotransplantation of kidney from cadaver NEC	7B00500
Other specified transplantation of kidney	7B00y00
Transplantation of kidney NOS	7B00z00
Dialysis for renal failure	7L1A.11
Renal dialysis	7L1A000
Thomas intravascular shunt for dialysis	7L1A011
Peritoneal dialysis	7L1A100
Haemodialysis NEC	7L1A200
Automated peritoneal dialysis	7L1A400
Continuous ambulatory peritoneal dialysis	7L1A500
Peritoneal dialysis NEC	7L1A600
Placement ambulatory dialysis apparatus - compensatory renal failure	7L1B.11
Insertion of ambulatory peritoneal dialysis catheter	7L1B000
Removal of ambulatory peritoneal dialysis catheter	7L1B100
Flushing of peritoneal dialysis catheter	7L1B200
Extracorporeal albumin haemodialysis	7L1f000
Chronic glomerulonephritis	K02..00
Nephritis – chronic	K02..11
Nephropathy – chronic	K02..12
Chronic proliferative glomerulonephritis	K020.00
Chronic membranous glomerulonephritis	K021.00
Chronic membranoproliferative glomerulonephritis	K022.00
Chronic rapidly progressive glomerulonephritis	K023.00
Other chronic glomerulonephritis	K02y.00
Chronic glomerulonephritis + diseases EC	K02y000
Chronic exudative glomerulonephritis	K02y100
Chronic focal glomerulonephritis	K02y200
Chronic diffuse glomerulonephritis	K02y300
Other chronic glomerulonephritis NOS	K02yz00
Chronic glomerulonephritis NOS	K02z.00
Chronic renal failure	K05..00
Chronic uraemia	K05..11
End stage renal failure	K05..12
Chronic kidney disease	K05..13
End stage renal failure	K050.00

Chronic kidney disease stage 3	K053.00
Chronic kidney disease stage 4	K054.00
Chronic kidney disease stage 5	K055.00
Renal impairment	K060.00
Impaired renal function	K060.11
Chronic nephritic syndrome	K0A3.00
Chronic nephritic syndrome, minor glomerular abnormality	K0A3000
Chronic nephritic syndrome focal + segmental glomerular lesions	K0A3100
Chronic nephritic syndrome diffuse membranous glomerulonephritis	K0A3200
Chronic nephritic syndrome diffuse mesangial proliferative glomerulonephritis	K0A3300
Chronic nephritic syndrome diffuse endocap proliferative glomerulonephritis	K0A3400
Chronic nephritic syndrome diffuse mesangiocapillary glomerulonephritis	K0A3500
Chronic nephritic syndrome, dense deposit disease	K0A3600
Chronic nephritic syndrome diffuse crescentric glomerulonephritis	K0A3700
End-stage renal disease	K0D..00
Acute-on-chronic renal failure	K0E..00
Mechanical complication of dialysis catheter	SP01500
Peritoneal dialysis associated peritonitis	SP05613
Continuous ambulatory peritoneal dialysis associated peritonitis	SP06B00
Stenosis of arteriovenous dialysis fistula	SP07G00
Deterioration renal function after renal transplant	SP08011
Kidney transplant failure and rejection	SP08300
Accelerated rejection of renal transplant	SP08C00
Acute-on-chronic rejection of renal transplant	SP08D00
Acute rejection of renal transplant - grade I	SP08E00
Acute rejection of renal transplant - grade II	SP08F00
Acute rejection of renal transplant - grade III	SP08G00
Acute rejection of renal transplant	SP08H00
Acute hypercalcaemia of dialysis	SP3y900
Kidney transplant with complication, without blame	TB00100

Kidney dialysis with complication, without blame	TB11.00
Renal dialysis with complication, without blame	TB11.11
Kidney transplanted	ZV42000

### Diabetes Description and Read Code

<b>Description</b>	<b>Read Code</b>
Gangrene of toe in diabetic	R054200
Widespread diabetic foot gangrene	R054300
Diabetes mellitus	Cyu2.00
Glomerular disorders in diabetes mellitus	Kyu0300
Other specified diabetes mellitus	Cyu2000
Pre-existing diabetes mellitus, unspecified	Lyu2900
Unspecified diabetes mellitus with renal complications	Cyu2300
Acute painful diabetic neuropathy	F372000
Admit diabetic emergency	8H2J.00
Advanced diabetic maculopathy	F420300
Advanced diabetic retinal disease	F420500
Asymptomatic diabetic neuropathy	F372200
Attending diabetes clinic	9NM0.00
Attends diabetes monitoring	9OL1.00
Autonomic neuropathy due to diabetes	F171100
Background diabetic retinopathy	F420000
Brittle diabetes	66AJ100
Cellulitis in diabetic foot	M037200
Chronic painful diabetic neuropathy	F372100
Date diabetic treatment start	66AN.00
Diab mellit insulin-glucose infus acute myocardial infarct	889A.00
Diabetes care by hospital only	66AU.00
Diabetes care plan agreed	8CS0.00
Diabetes clinical management plan	8CR2.00
Diabetes management plan given	66AR.00
Diabetes medication review	8B31.00
Diabetes mellitus	C10..00
Diabetes mellitus autosomal dominant	C10C.00
Diabetes mellitus autosomal dominant type 2	C10D.00
Diabetes mellitus induced by non-steroid drugs	C10H.00
Diabetes mellitus induced by steroids	C10B.00

Diabetes mellitus NOS with hyperosmolar coma	C102z00
Diabetes mellitus NOS with ketoacidosis	C101z00
Diabetes mellitus NOS with ketoacidotic coma	C103z00
Diabetes mellitus NOS with neurological manifestation	C106z00
Diabetes mellitus NOS with no mention of complication	C100z00
Diabetes mellitus NOS with ophthalmic manifestation	C105z00
Diabetes mellitus NOS with other specified manifestation	C10yz00
Diabetes mellitus NOS with peripheral circulatory disorder	C107z00
Diabetes mellitus NOS with unspecified complication	C10zz00
Diabetes mellitus with gangrene	C107.11
Diabetes mellitus with hyperosmolar coma	C102.00
Diabetes mellitus with ketoacidosis	C101.00
Diabetes mellitus with ketoacidotic coma	C103.00
Diabetes mellitus with nephropathy NOS	C104z00
Diabetes mellitus with neurological manifestation	C106.00
Diabetes mellitus with neuropathy	C106.12
Diabetes mellitus with no mention of complication	C100.00
Diabetes mellitus with ophthalmic manifestation	C105.00
Diabetes mellitus with other specified manifestation	C10y.00
Diabetes mellitus with peripheral circulatory disorder	C107.00
Diabetes mellitus with polyneuropathy	C106.13
Diabetes mellitus with renal manifestation	C104.00
Diabetes mellitus with unspecified complication	C10z.00
Diabetes mellitus, adult onset, + neurological manifestation	C106100
Diabetes mellitus, adult onset, + ophthalmic manifestation	C105100
Diabetes mellitus, adult onset, + unspecified complication	C10z100
Diabetes mellitus, adult onset, no mention of	C100100

complication	
Diabetes mellitus, adult onset, with hyperosmolar coma	C102100
Diabetes mellitus, adult onset, with ketoacidosis	C101100
Diabetes mellitus, adult onset, with ketoacidotic coma	C103100
Diabetes mellitus, adult onset, with renal manifestation	C104100
Diabetes mellitus, adult with gangrene	C107200
Diabetes mellitus, adult, + other specified manifestation	C10y100
Diabetes mellitus, adult, + peripheral circulatory disorder	C107100
Diabetes mellitus, juvenile +peripheral circulatory disorder	C107000
Diabetes mellitus, juvenile type, + ophthalmic manifestation	C105000
Diabetes mellitus, juvenile type, + unspecified complication	C10z000
Diabetes mellitus, juvenile type, no mention of complication	C100000
Diabetes mellitus, juvenile type, with hyperosmolar coma	C102000
Diabetes mellitus, juvenile type, with ketoacidosis	C101000
Diabetes mellitus, juvenile type, with ketoacidotic coma	C103000
Diabetes mellitus, juvenile type, with renal manifestation	C104000
Diabetes mellitus, juvenile, + neurological manifestation	C106000
Diabetes mellitus, juvenile, + other specified manifestation	C10y000
Diabetes monitor. check done	9OLA.00
Diabetes monitored	9OLA.11
Diabetes monitoring 2nd letter	9OL5.00
Diabetes monitoring admin.	9OL..00
Diabetes monitoring default	9OL3.00
Diabetes self-management plan agreed	661M400
Diabetes structured education programme declined	9OLM.00
Diabetes type 1 review	66An.00

Diabetes type 2 review	66Ao.00
Diabetes with gangrene	C107.12
Diabetes: practice programme	66AP.00
Diabetes: shared care programme	66AQ.00
Diabetic - cooperative patient	66AK.00
Diabetic - follow-up default	66AM.00
Diabetic - good control	66AI.00
Diabetic - poor control	66AJ.00
Diabetic - poor control NOS	66AJz00
Diabetic 6 month review	66Ai.00
Diabetic amyotrophy	F381311
Diabetic amyotrophy	C106.11
Diabetic annual review	66AS.00
Diabetic assessment of erectile dysfunction	66Av.00
Diabetic cataract	F464000
Diabetic Charcot arthropathy	N030100
Diabetic cheiroarthropathy	N030000
Diabetic cheirography	N030011
Diabetic crisis monitoring	8A12.00
Diabetic diet - good compliance	66AY.00
Diabetic digital retinopathy screening offered	68AB.00
Diabetic erectile dysfunction review	66Au.00
Diabetic foot examination	66Ab.00
Diabetic foot examination declined	8I3W.00
Diabetic foot risk assessment	66AW.00
Diabetic foot screen	66Aq.00
Diabetic iritis	F440700
Diabetic maculopathy	F420400
Diabetic monitoring	66A..00
Diabetic monitoring NOS	66AZ.00
Diabetic mononeuritis multiplex	F345000
Diabetic mononeuritis NOS	F35z000
Diabetic mononeuropathy	F3y0.00
Diabetic nephropathy	C104.11
Diabetic neuropathy	F372.12
Diabetic on diet only	66A3.00
Diabetic on insulin	66A5.00
Diabetic on insulin and oral treatment	66AV.00
Diabetic on oral treatment	66A4.00
Diabetic on subcutaneous treatment	66As.00
Diabetic patient unsuitable for digital retinal photography	9OLD.00

Diabetic peripheral angiopathy	G73y000
Diabetic peripheral neuropathy screening	66Ac.00
Diabetic polyneuropathy	F372.11
Diabetic retinopathy	F420.00
Diabetic retinopathy 12 month review	8HBG.00
Diabetic retinopathy 6 month review	8HBH.00
Diabetic retinopathy NOS	F420z00
Diabetic retinopathy screening	68A7.00
Diabetic retinopathy screening offered	68A9.00
Diabetic retinopathy screening refused	8I3X.00
Diabetic stabilization	8A13.00
Diabetic treatment changed	66AH.00
Diabetic-uncooperative patient	66AL.00
DM induced by non-steroid drugs without complication	C10H000
Excepted from diabetes qual indicators: Patient unsuitable	9h41.00
Excepted from diabetes quality indicators: Informed dissent	9h42.00
Follow-up diabetic assessment	66A2.00
Foot abnormality - diabetes related	2G5C.00
Foot abnormality - diabetes related	2G51000
Fundoscopy - diabetic check	66AD.00
H/O: Admission in last year for diabetes foot problem	14F4.00
H/O: diabetes mellitus	1434.00
Has seen dietician – diabetes	66A8.00
Hb. A1C - diabetic control	42W..00
HbA1 - diabetic control	42c..00
Health education – diabetes	679L.00
High risk non proliferative diabetic retinopathy	F420800
High risk proliferative diabetic retinopathy	F420700
Hyperosmolar non-ketotic state in type 2 diabetes mellitus	C10FK00
Hyperosmolar non-ketotic state in type 2 diabetes mellitus	C109K00
Hyperosmolar non-ketotic state in type II diabetes mellitus	C10FK11
IDDM with peripheral circulatory disorder	C107300
IDDM-Insulin dependent diabetes mellitus	C108.11
Impair vision due diab retinop	2BBr.00
Initial diabetic assessment	66A1.00
Injection sites – diabetic	66AA.11

Insulin dependent diab mell with neuropathic arthropathy	C108J00
Insulin dependent diab mell with neuropathic arthropathy	C10EJ12
Insulin dependent diab mell with peripheral angiopathy	C108G00
Insulin dependent diab mell with peripheral angiopathy	C10EG12
Insulin dependent diabetes maturity onset	C108900
Insulin dependent diabetes maturity onset	C10E912
Insulin dependent diabetes mellitus	C100011
Insulin dependent diabetes mellitus	C108.00
Insulin dependent diabetes mellitus	C10E.12
Insulin dependent diabetes mellitus - poor control	C108800
Insulin dependent diabetes mellitus - poor control	C10E812
Insulin dependent diabetes mellitus with arthropathy	C108H00
Insulin dependent diabetes mellitus with arthropathy	C10EH12
Insulin dependent diabetes mellitus with diabetic cataract	C108F00
Insulin dependent diabetes mellitus with diabetic cataract	C10EF12
Insulin dependent diabetes mellitus with gangrene	C108600
Insulin dependent diabetes mellitus with gangrene	C10E612
Insulin dependent diabetes mellitus with hypoglycaemic coma	C108E00
Insulin dependent diabetes mellitus with hypoglycaemic coma	C10EE12
Insulin dependent diabetes mellitus with mononeuropathy	C108B00
Insulin dependent diabetes mellitus with mononeuropathy	C10EB12
Insulin dependent diabetes mellitus with multiple complicat	C10E312
Insulin dependent diabetes mellitus with multiple complicatn	C108300
Insulin dependent diabetes mellitus with nephropathy	C108D00

Insulin dependent diabetes mellitus with nephropathy	C10ED12
Insulin dependent diabetes mellitus with polyneuropathy	C108C00
Insulin dependent diabetes mellitus with polyneuropathy	C10EC12
Insulin dependent diabetes mellitus with retinopathy	C108700
Insulin dependent diabetes mellitus with retinopathy	C10E712
Insulin dependent diabetes mellitus with ulcer	C108500
Insulin dependent diabetes mellitus with ulcer	C10E512
Insulin treated non-insulin dependent diabetes mellitus	C109J11
Insulin treated Type 2 diabetes mellitus	C10FJ00
Insulin treated Type 2 diabetes mellitus	C109J00
Insulin treated Type II diabetes mellitus	C10FJ11
Insulin treated Type II diabetes mellitus	C109J12
Insulin-dependent diabetes mellitus with neurological comps	C108200
Insulin-dependent diabetes mellitus with neurological comps	C10E212
Insulin-dependent diabetes mellitus with ophthalmic comps	C108100
Insulin-dependent diabetes mellitus with ophthalmic comps	C10E112
Insulin-dependent diabetes mellitus with renal complications	C108000
Insulin-dependent diabetes mellitus with renal complications	C10E012
Insulin-dependent diabetes without complication	C108A00
Insulin-dependent diabetes without complication	C10EA12
Ischaemic ulcer diabetic foot	M271000
Latent autoimmune diabetes mellitus in adult	C10ER00
Maternally inherited diabetes mellitus	C10FS00
Maturity onset diabetes	C100111
Maturity onset diabetes in youth	C10C.11
Maturity onset diabetes in youth type 1	C10C.12
Maturity onset diabetes in youth type 2	C10D.11
Mixed diabetic ulcer – foot	M271200

Myasthenic syndrome due to diabetic amyotrophy	F381300
Nephrotic syndrome in diabetes mellitus	K01x100
Neuropathic diabetic ulcer – foot	M271100
NIDDM - Non-insulin dependent diabetes mellitus	C109.11
NIDDM with peripheral circulatory disorder	C107400
Non proliferative diabetic retinopathy	F420600
Non-insulin depend diabetes mellitus with diabetic cataract	C109E00
Non-insulin dependent d m with neuropathic arthropathy	C109H00
Non-insulin dependent diabetes mellitus	C109.00
Non-insulin dependent diabetes mellitus	C100112
Non-insulin dependent diabetes mellitus - poor control	C109700
Non-insulin dependent diabetes mellitus with arthropathy	C109G00
Non-insulin dependent diabetes mellitus with gangrene	C109500
Non-insulin dependent diabetes mellitus with hypoglyca coma	C109D00
Non-insulin dependent diabetes mellitus with mononeuropathy	C109A00
Non-insulin dependent diabetes mellitus with nephropathy	C109C00
Non-insulin dependent diabetes mellitus with polyneuropathy	C109B00
Non-insulin dependent diabetes mellitus with ulcer	C109400
Non-insulin-dependent d m with peripheral angiopath	C109F00
Non-insulin-dependent diabetes mellitus with multiple comps	C109300
Non-insulin-dependent diabetes mellitus with neuro comps	C109200
Non-insulin-dependent diabetes mellitus with ophthalm comps	C109100
Non-insulin-dependent diabetes mellitus with renal comps	C109000
Non-insulin-dependent diabetes mellitus with retinopathy	C109600

Non-insulin-dependent diabetes mellitus without complication	C109900
Non-urgent diabetic admission	8H3O.00
O/E - diabetic maculopathy present both eyes	2BBL.00
O/E - left chronic diabetic foot ulcer	2G5W.00
O/E - Left diabetic foot – ulcerated	2G5L.00
O/E - Left diabetic foot at high risk	2G5K.00
O/E - Left diabetic foot at low risk	2G5I.00
O/E - Left diabetic foot at moderate risk	2G5J.00
O/E - Left diabetic foot at risk	2G5B.00
O/E - left eye background diabetic retinopathy	2BBQ.00
O/E - left eye diabetic maculopathy	2BBX.00
O/E - left eye preproliferative diabetic retinopathy	2BBS.00
O/E - left eye proliferative diabetic retinopathy	2BBV.00
O/E - left eye stable treated proliferative diabetic retinopathy	2BBI.00
O/E - right chronic diabetic foot ulcer	2G5V.00
O/E - Right diabetic foot – ulcerated	2G5H.00
O/E - Right diabetic foot at high risk	2G5G.00
O/E - Right diabetic foot at low risk	2G5E.00
O/E - Right diabetic foot at moderate risk	2G5F.00
O/E - Right diabetic foot at risk	2G5A.00
O/E - right eye background diabetic retinopathy	2BBP.00
O/E - right eye diabetic maculopathy	2BBW.00
O/E - right eye preproliferative diabetic retinopathy	2BBR.00
O/E - right eye proliferative diabetic retinopathy	2BBT.00
O/E - right eye stable treated proliferative diabetic retinopathy	2BBk.00
O/E - sight threatening diabetic retinopathy	2BBo.00
Other specified diabetes mellitus with coma	C103y00
Other specified diabetes mellitus with ketoacidosis	C101y00
Other specified diabetes mellitus with multiple comps	C108y00
Other specified diabetes mellitus with neurological comps	C106y00
Other specified diabetes mellitus with ophthalmic complicatn	C105y00

Other specified diabetes mellitus with other spec comps	C10yy00
Other specified diabetes mellitus with periph circ comps	C107y00
Other specified diabetes mellitus with renal complications	C104y00
Other specified diabetes mellitus with unspecified comps	C10zy00
Pan retinal photocoagulation for diabetes	7276.00
Patient diabetes education review	66Af.00
Patient on maximal tolerated therapy for diabetes	8BL2.00
Perceived control of insulin-dependent diabetes	ZRbH.00
Polyneuropathy in diabetes	F372.00
Pre-existing diabetes mellitus, insulin-dependent	L180500
Pre-existing diabetes mellitus, non-insulin-dependent	L180600
Pre-existing diabetes mellitus, unspecified	L180X00
Preproliferative diabetic retinopathy	F420200
Private referral to diabetologist	8HVU.00
Proliferative diabetic retinopathy	F420100
Refer to diabetic foot screener	8H7r.00
Refer, diabetic liaison nurse	8H7C.00
Referral for diabetic retinopathy screening	8H11.00
Referral to community diabetes specialist nurse	8H14.00
Referral to diabetes nurse	8H7f.00
Referral to diabetes nurse	ZL62500
Referral to diabetes special interest general practitioner	8H4e.00
Referral to diabetes structured education programme	8Hj0.00
Referral to diabetic eye clinic	8HTk.00
Referral to diabetic liaison nurse	ZL62600
Referral to diabetologist	8H4F.00
Referral to multidisciplinary diabetic clinic	8HTi.00
Referral to XPERT diabetes structured education programme	8Hj5.00
Retinal abnormality - diabetes related	2BBF.00
Seen by diabetic liaison nurse	9N2i.00
Seen in community diabetes specialist clinic	9N0n.00
Seen in community diabetic specialist nurse	9N0o.00

clinic	
Seen in diabetic clinic	9N1Q.00
Seen in diabetic eye clinic	9N1v.00
Seen in diabetic foot clinic	9N1i.00
Steroid induced diabetes	C11y000
Steroid induced diabetes mellitus without complication	C10B000
Type 1 diabetes mellitus	C10E.00
Type 1 diabetes mellitus	C108.12
Type 1 diabetes mellitus - poor control	C10E800
Type 1 diabetes mellitus - poor control	C108812
Type 1 diabetes mellitus maturity onset	C10E900
Type 1 diabetes mellitus maturity onset	C108912
Type 1 diabetes mellitus with arthropathy	C10EH00
Type 1 diabetes mellitus with arthropathy	C108H12
Type 1 diabetes mellitus with diabetic cataract	C10EF00
Type 1 diabetes mellitus with diabetic cataract	C108F12
Type 1 diabetes mellitus with exudative maculopathy	C10EP00
Type 1 diabetes mellitus with gangrene	C10E600
Type 1 diabetes mellitus with gangrene	C108612
Type 1 diabetes mellitus with gastroparesis	C10EQ00
Type 1 diabetes mellitus with hypoglycaemic coma	C10EE00
Type 1 diabetes mellitus with hypoglycaemic coma	C108E12
Type 1 diabetes mellitus with ketoacidosis	C10EM00
Type 1 diabetes mellitus with ketoacidotic coma	C10EN00
Type 1 diabetes mellitus with mononeuropathy	C10EB00
Type 1 diabetes mellitus with mononeuropathy	C108B12
Type 1 diabetes mellitus with multiple complications	C10E300
Type 1 diabetes mellitus with multiple complications	C108312
Type 1 diabetes mellitus with nephropathy	C10ED00
Type 1 diabetes mellitus with nephropathy	C108D12
Type 1 diabetes mellitus with neurological complications	C10E200
Type 1 diabetes mellitus with neurological complications	C108212

Type 1 diabetes mellitus with neuropathic arthropathy	C10EJ00
Type 1 diabetes mellitus with neuropathic arthropathy	C108J12
Type 1 diabetes mellitus with ophthalmic complications	C10E100
Type 1 diabetes mellitus with ophthalmic complications	C108112
Type 1 diabetes mellitus with peripheral angiopathy	C108G12
Type 1 diabetes mellitus with peripheral angiopathy	C10EG00
Type 1 diabetes mellitus with persistent microalbuminuria	C10EL00
Type 1 diabetes mellitus with persistent proteinuria	C10EK00
Type 1 diabetes mellitus with polyneuropathy	C10EC00
Type 1 diabetes mellitus with polyneuropathy	C108C12
Type 1 diabetes mellitus with renal complications	C10E000
Type 1 diabetes mellitus with renal complications	C108012
Type 1 diabetes mellitus with retinopathy	C10E700
Type 1 diabetes mellitus with retinopathy	C108712
Type 1 diabetes mellitus with ulcer	C10E500
Type 1 diabetes mellitus with ulcer	C108512
Type 1 diabetes mellitus without complication	C10EA00
Type 1 diabetes mellitus without complication	C108A12
Type 2 diabetes mellitus	C10F.00
Type 2 diabetes mellitus	C109.12
Type 2 diabetes mellitus - poor control	C10F700
Type 2 diabetes mellitus - poor control	C109712
Type 2 diabetes mellitus with arthropathy	C10FG00
Type 2 diabetes mellitus with arthropathy	C109G12
Type 2 diabetes mellitus with diabetic cataract	C10FE00
Type 2 diabetes mellitus with diabetic cataract	C109E12
Type 2 diabetes mellitus with exudative maculopathy	C10FQ00
Type 2 diabetes mellitus with gangrene	C10F500
Type 2 diabetes mellitus with gangrene	C109512
Type 2 diabetes mellitus with gastroparesis	C10FR00

Type 2 diabetes mellitus with hypoglycaemic coma	C10FD00
Type 2 diabetes mellitus with hypoglycaemic coma	C109D12
Type 2 diabetes mellitus with ketoacidosis	C10FN00
Type 2 diabetes mellitus with ketoacidotic coma	C10FP00
Type 2 diabetes mellitus with mononeuropathy	C10FA00
Type 2 diabetes mellitus with mononeuropathy	C109A12
Type 2 diabetes mellitus with multiple complications	C10F300
Type 2 diabetes mellitus with multiple complications	C109312
Type 2 diabetes mellitus with nephropathy	C10FC00
Type 2 diabetes mellitus with nephropathy	C109C12
Type 2 diabetes mellitus with neurological complications	C10F200
Type 2 diabetes mellitus with neurological complications	C109212
Type 2 diabetes mellitus with neuropathic arthropathy	C10FH00
Type 2 diabetes mellitus with neuropathic arthropathy	C109H12
Type 2 diabetes mellitus with ophthalmic complications	C10F100
Type 2 diabetes mellitus with ophthalmic complications	C109112
Type 2 diabetes mellitus with peripheral angiopathy	C10FF00
Type 2 diabetes mellitus with peripheral angiopathy	C109F12
Type 2 diabetes mellitus with persistent microalbuminuria	C10FM00
Type 2 diabetes mellitus with persistent proteinuria	C10FL00
Type 2 diabetes mellitus with polyneuropathy	C10FB00
Type 2 diabetes mellitus with polyneuropathy	C109B12
Type 2 diabetes mellitus with renal complications	C10F000
Type 2 diabetes mellitus with renal complications	C109012
Type 2 diabetes mellitus with retinopathy	C10F600

Type 2 diabetes mellitus with retinopathy	C109612
Type 2 diabetes mellitus with ulcer	C10F400
Type 2 diabetes mellitus with ulcer	C109412
Type 2 diabetes mellitus without complication	C10F900
Type 2 diabetes mellitus without complication	C109912
Type I diabetes mellitus	C108.13
Type I diabetes mellitus	C10E.11
Type I diabetes mellitus - poor control	C108811
Type I diabetes mellitus - poor control	C10E811
Type I diabetes mellitus maturity onset	C10E911
Type I diabetes mellitus maturity onset	C108911
Type I diabetes mellitus with arthropathy	C108H11
Type I diabetes mellitus with arthropathy	C10EH11
Type I diabetes mellitus with diabetic cataract	C108F11
Type I diabetes mellitus with diabetic cataract	C10EF11
Type I diabetes mellitus with exudative maculopathy	C10EP11
Type I diabetes mellitus with gangrene	C10E611
Type I diabetes mellitus with gangrene	C108611
Type I diabetes mellitus with gastroparesis	C10EQ11
Type I diabetes mellitus with hypoglycaemic coma	C108E11
Type I diabetes mellitus with hypoglycaemic coma	C10EE11
Type I diabetes mellitus with ketoacidosis	C10EM11
Type I diabetes mellitus with ketoacidotic coma	C10EN11
Type I diabetes mellitus with mononeuropathy	C108B11
Type I diabetes mellitus with mononeuropathy	C10EB11
Type I diabetes mellitus with multiple complications	C10E311
Type I diabetes mellitus with multiple complications	C108311
Type I diabetes mellitus with nephropathy	C108D11
Type I diabetes mellitus with nephropathy	C10ED11
Type I diabetes mellitus with neurological complications	C108211
Type I diabetes mellitus with neurological complications	C10E211
Type I diabetes mellitus with neuropathic arthropathy	C108J11

Type I diabetes mellitus with neuropathic arthropathy	C10EJ11
Type I diabetes mellitus with ophthalmic complications	C108111
Type I diabetes mellitus with ophthalmic complications	C10E111
Type I diabetes mellitus with peripheral angiopathy	C108G11
Type I diabetes mellitus with peripheral angiopathy	C10EG11
Type I diabetes mellitus with persistent microalbuminuria	C10EL11
Type I diabetes mellitus with persistent proteinuria	C10EK11
Type I diabetes mellitus with polyneuropathy	C108C11
Type I diabetes mellitus with polyneuropathy	C10EC11
Type I diabetes mellitus with renal complications	C108011
Type I diabetes mellitus with renal complications	C10E011
Type I diabetes mellitus with retinopathy	C108711
Type I diabetes mellitus with retinopathy	C10E711
Type I diabetes mellitus with ulcer	C108511
Type I diabetes mellitus with ulcer	C10E511
Type I diabetes mellitus without complication	C10EA11
Type I diabetes mellitus without complication	C108A11
Type II diabetes mellitus	C109.13
Type II diabetes mellitus	C10F.11
Type II diabetes mellitus - poor control	C10F711
Type II diabetes mellitus - poor control	C109711
Type II diabetes mellitus with arthropathy	C10FG11
Type II diabetes mellitus with arthropathy	C109G11
Type II diabetes mellitus with diabetic cataract	C109E11
Type II diabetes mellitus with diabetic cataract	C10FE11
Type II diabetes mellitus with exudative maculopathy	C10FQ11
Type II diabetes mellitus with gangrene	C109511
Type II diabetes mellitus with gangrene	C10F511
Type II diabetes mellitus with gastroparesis	C10FR11
Type II diabetes mellitus with hypoglycaemic coma	C109D11

Type II diabetes mellitus with hypoglycaemic coma	C10FD11
Type II diabetes mellitus with ketoacidosis	C10FN11
Type II diabetes mellitus with ketoacidotic coma	C10FP11
Type II diabetes mellitus with mononeuropathy	C10FA11
Type II diabetes mellitus with mononeuropathy	C109A11
Type II diabetes mellitus with multiple complications	C10F311
Type II diabetes mellitus with multiple complications	C109311
Type II diabetes mellitus with nephropathy	C109C11
Type II diabetes mellitus with nephropathy	C10FC11
Type II diabetes mellitus with neurological complications	C109211
Type II diabetes mellitus with neurological complications	C10F211
Type II diabetes mellitus with neuropathic arthropathy	C109H11
Type II diabetes mellitus with neuropathic arthropathy	C10FH11
Type II diabetes mellitus with ophthalmic complications	C10F111
Type II diabetes mellitus with ophthalmic complications	C109111
Type II diabetes mellitus with peripheral angiopathy	C109F11
Type II diabetes mellitus with peripheral angiopathy	C10FF11
Type II diabetes mellitus with persistent microalbuminuria	C10FM11
Type II diabetes mellitus with persistent proteinuria	C10FL11
Type II diabetes mellitus with polyneuropathy	C10FB11
Type II diabetes mellitus with polyneuropathy	C109B11
Type II diabetes mellitus with renal complications	C10F011
Type II diabetes mellitus with renal complications	C109011
Type II diabetes mellitus with retinopathy	C10F611
Type II diabetes mellitus with retinopathy	C109611

Type II diabetes mellitus with ulcer	C109411
Type II diabetes mellitus with ulcer	C10F411
Type II diabetes mellitus without complication	C10F911
Type II diabetes mellitus without complication	C109911
Under care of diabetes specialist nurse	9NN9.00
Under care of diabetic foot screener	9NND.00
Under care of diabetic liaison nurse	ZL22500
Unspecified diabetes mellitus with multiple complications	C108z00
Unstable diabetes	66AJ.11
Unstable insulin dependent diabetes mellitus	C108400
Unstable insulin dependent diabetes mellitus	C10E412
Unstable type 1 diabetes mellitus	C10E400
Unstable type 1 diabetes mellitus	C108412
Unstable type I diabetes mellitus	C10E411
Unstable type I diabetes mellitus	C108411
[V]Dietary counselling in diabetes mellitus	ZV65312
Diabetic diet	13B1.00
Diabetic diet - poor compliance	66Aa.00
Diabetic dietary review	66At.00
Diabetic dietary review declined	8IA.s.00
Diet advice for insulin-dependent diabetes	ZC2C911
Dietary advice for diabetes mellitus	ZC2C800
Dietary advice for type I diabetes	ZC2C900
Dietary advice for type II diabetes	ZC2CA00
Dietary advice non-insulin-dependent diabetes	ZC2CA11
Type 1 diabetic dietary review	66At011
Type 2 diabetic dietary review	66At111
Type I diabetic dietary review	66At000
Type II diabetic dietary review	66At100

### Gout Medications Description, Multilex Code, and BNF Code

Description	Multilex Code	BNF Code
Allopurinol 100mg tablets	97039998	10.01.04.00
ALLOPURINOL 100mg tablets	98945998	10.01.04.00
ALLOPURINOL 100mg tablets	92928998	10.01.04.00
Allopurinol 100mg tablets	98597989	10.01.04.00
Allopurinol 100mg tablets	99896990	10.01.04.00
ALLOPURINOL 100mg tablets	99852998	10.01.04.00

Allopurinol 100mg tablets	99899990	10.01.04.00
ALLOPURINOL 100mg tablets	97393998	10.01.04.00
ALLOPURINOL 100mg tablets	97795998	10.01.04.00
Allopurinol 100mg tablets	97792990	10.01.04.00
Allopurinol 100mg tablets	99898990	10.01.04.00
Allopurinol 100mg tablets	96936990	10.01.04.00
Allopurinol 100mg tablets	98152990	10.01.04.00
Allopurinol 100mg tablets	99900990	10.01.04.00
Allopurinol 300mg tablets	97039997	10.01.04.00
ALLOPURINOL 300mg tablets	98639998	10.01.04.00
ALLOPURINOL 300mg tablets	92928997	10.01.04.00
ALLOPURINOL 300mg tablets	99852997	10.01.04.00
ALLOPURINOL 300mg tablets	97392998	10.01.04.00
Allopurinol 300mg tablets	99896989	10.01.04.00
Allopurinol 300mg tablets	99899989	10.01.04.00
Allopurinol 300mg tablets	99898989	10.01.04.00
Allopurinol 300mg tablets	98597990	10.01.04.00
Allopurinol 300mg tablets	97792989	10.01.04.00
Allopurinol 300mg tablets	96936989	10.01.04.00
Allopurinol 300mg tablets	99895989	10.01.04.00
Allopurinol 300mg tablets	99894989	10.01.04.00
Allopurinol 300mg tablets	99900989	10.01.04.00
Allopurinol 300mg tablets	98152989	10.01.04.00
Allopurinol 300mg tablets	99897989	10.01.04.00
ALLOPURINOL sf susp 100mg/5ml	86921998	10.01.04.02
Benzbromarone 100mg tablets	80934998	10.01.00.00
COLCHICINE .1 MG TAB	94122992	10.01.04.00
COLCHICINE .5 MG TAB	94856992	10.01.04.00
COLCHICINE 250 MCG CAP	94855992	10.01.04.00
COLCHICINE 250 MCG TAB	96069992	10.01.04.00
Colchicine 500microgram tablets	98000998	10.01.04.00
Colchicine 500microgram tablets	99650990	10.01.04.00
Colchicine 500microgram tablets	99637990	10.01.04.00
Colchicine 500microgram tablets	96906990	10.01.04.00
COLCHICUM & SODIUM SALICYLATE MIX	93850992	10.01.04.00
Febuxostat 120mg tablets	82371998	10.01.04.00
FEBUXOSTAT 120mg tablets	82369998	10.01.04.00
Febuxostat 80mg tablets	82372998	10.01.04.00
FEBUXOSTAT 80mg tablets	82370998	10.01.04.00

Probenecid 500mg tablets	95402998	10.01.04.00
PROBENECID 500mg tablets	99907998	10.01.04.00
Probenecid 500mg tablets	86944998	10.01.04.00
Sulfinpyrazone 100mg tablets	95232998	10.01.04.00
SULFINPYRAZONE 100mg tablets	87546998	10.01.04.00
SULFINPYRAZONE 100mg tablets	99949998	10.01.04.00
Sulfinpyrazone 200mg tablets	95232997	10.01.04.00
SULFINPYRAZONE 200mg tablets	99949997	10.01.04.00
SULFINPYRAZONE 200mg tablets	87545998	10.01.04.00

### ACEI Description, Multilex Code, and BNF Code

<b>Description</b>	<b>Multilex Code</b>	<b>BNF Code</b>
Ramipril 10mg capsules	94139998	02.05.05.01
Ramipril 5mg capsules	93567996	02.05.05.01
Lisinopril 20mg tablets	94748998	02.05.05.01
Lisinopril 10mg tablets	94749996	02.05.05.01
Ramipril 2.5mg capsules	93567997	02.05.05.01
Lisinopril 5mg tablets	94749997	02.05.05.01
Perindopril erbumine 4mg tablets	93597997	02.05.05.01
Enalapril 20mg tablets	96795998	02.05.05.01
Perindopril erbumine 2mg tablets	93597998	02.05.05.01
Enalapril 10mg tablets	96796996	02.05.05.01
Lisinopril 2.5mg tablets	94749998	02.05.05.01
Ramipril 1.25mg capsules	93567998	02.05.05.01
Enalapril 5mg tablets	96796997	02.05.05.01
Perindopril erbumine 8mg tablets	91444998	02.05.05.01
Captopril 25mg tablets	96888997	02.05.05.01
Captopril 12.5mg tablets	96888998	02.05.05.01
Enalapril 2.5mg tablets	96796998	02.05.05.01
Captopril 50mg tablets	96888996	02.05.05.01
Ramipril 10mg tablets	87903998	02.05.05.01
Lisinopril 20mg / Hydrochlorothiazide 12.5mg tablets	99328998	02.05.05.01
Trandolapril 2mg capsules	94603996	02.05.05.01
Ramipril 5mg tablets	87904998	02.05.05.01

Fosinopril 20mg tablets	93136997	02.05.05.01
Fosinopril 10mg tablets	93136998	02.05.05.01
Ramipril 2.5mg tablets	87905998	02.05.05.01
LISINOPRIL 10mg tablets	94751996	02.05.05.01
LISINOPRIL 5mg tablets	94751997	02.05.05.01
Quinapril 20mg tablets	94395996	02.05.05.01
ENALAPRIL MAL 10mg tabs x28	98216996	02.05.05.01
CAPTOPRIL 25mg tablets	99851997	02.05.05.01
Perindopril erbumine 4mg / Indapamide 1.25mg tablets	89305998	02.05.05.01
Lisinopril 10mg / Hydrochlorothiazide 12.5mg tablets	99328997	02.05.05.01
Quinapril 10mg tablets	94395997	02.05.05.01
LISINOPRIL 20mg tablets	94750998	02.05.05.01
ENALAPRIL MAL 20mg tabs x28	97359998	02.05.05.01
ENALAPRIL MALEATE 5mg tabs x2	98216997	02.05.05.01
LISINO+HYDROCHL 20/12.5mg tabs	99162998	02.05.05.01
Quinapril 40mg tablets	92731998	02.05.05.01
Trandolapril 1mg capsules	94603997	02.05.05.01
PERINDOPRIL ERBUMINE 4mg tabs	93598997	02.05.05.01
CAPTOPRIL 12.5mg tablets	99851998	02.05.05.01
PERINDOPRIL ERBUMINE 2mg tabs	93598998	02.05.05.01
LISINOPRIL 2.5mg tablets	94751998	02.05.05.01
Ramipril 1.25mg tablets	87906998	02.05.05.01
PERINDOPRIL/TERT- BUTYLAMINE 2 MG TAB	96796992	02.05.05.01
Quinapril 5mg tablets	94395998	02.05.05.01
Trandolapril 4mg capsules	87622998	02.05.05.01
CAPTOPRIL 50mg tablets x56	99851996	02.05.05.01
FOSINOPRIL 10mg tablets	93137998	02.05.05.01
RAMIPRIL 10mg capsules	87370998	02.05.05.01
ENALAP+HYDROCHL 20/12.5mg tabs	99272998	02.05.05.01
Perindopril arginine 5mg / Indapamide 1.25mg tablets	84253998	02.05.05.01
RAMIPRIL 5mg capsules	93568996	02.05.05.01

Enalapril 20mg / Hydrochlorothiazide 12.5mg tablets	99266998	02.05.05.01
LISINO+HYDROCHL 10/12.5mg tabs	99162997	02.05.05.01
FOSINOPRIL 20mg tablets	93137997	02.05.05.01
Imidapril 10mg tablets	90576997	02.05.05.01
Trandolapril 500microgram capsules	94603998	02.05.05.01
RAMIPRIL caps 2.5mg + 5mg + 10mg	91065998	02.05.05.01
ENALAPRIL MALEATE 2.5mg tabs	98216998	02.05.05.01
LISINOPRIL 10mg tablets	94753996	02.05.05.01
RAMIPRIL 2.5mg capsules	93568997	02.05.05.01
LISINOPRIL 5mg tablets	94753997	02.05.05.01
LISINOPRIL 20mg tablets	94752998	02.05.05.01
Imidapril 5mg tablets	90576998	02.05.05.01
TRANDOLAPRIL 2mg capsules	93928996	02.05.05.01
RAMIPRIL 5mg capsules	87371998	02.05.05.01
CAPTOPRIL 25mg tablets x56	98877997	02.05.05.01
Imidapril 20mg tablets	90576996	02.05.05.01
PERIND ERB+INDAP 4/1.25mg tabs	88955998	02.05.05.01
QUINAPRIL 10mg tablets	94396997	02.05.05.01
Cilazapril 5mg tablets	98471997	02.05.05.01
Co-zidocapt 25mg/50mg tablets	89061998	02.05.05.01
RAMIPRIL 10mg tablets	87899998	02.05.05.01
QUINAPRIL 5mg tablets	94396998	02.05.05.01
RAMIPRIL 1.25mg capsules	93568998	02.05.05.01
RAMIPRIL 2.5mg capsules	87372998	02.05.05.01
CAPTOPRIL 12.5mg tablets	98877998	02.05.05.01
QUINAPRIL 20mg tablets	94396996	02.05.05.01
Quinapril 10mg / Hydrochlorothiazide 12.5mg tablets	93101998	02.05.05.01
TRANDOLAPRIL 1mg capsules	93928997	02.05.05.01
CAPTOP+HYDROCHL 50/25mg tabs	97060998	02.05.05.01
PERIND ARG+INDAP 5/1.25mg tabs	84035998	02.05.05.01

Cilazapril 2.5mg tablets	98471998	02.05.05.01
ENALAPRIL MALEATE 40 MG TAB	97347992	02.05.05.01
LISINOPRIL 2.5mg tablets	94753998	02.05.05.01
RAMIPRIL 5mg tablets	87900998	02.05.05.01
Cilazapril 1mg tablets	99660996	02.05.05.01
CAPTOPRIL + HYDROCHLOROTHIAZIDE tabs 50mg + 25mg	94869998	02.05.05.01
LISINO+HYDROCHL 20/12.5mg tabs	83448998	02.05.05.01
CILAZAPRIL 2.5mg tablets	98169998	02.05.05.01
RAMIPRIL 2.5mg tablets	87901998	02.05.05.01
Perindopril arginine 5mg tablets	84040998	02.05.05.01
CAPTOPRIL 50mg tablets x56	98877996	02.05.05.01
Verapamil 180mg modified-release / Trandolapril 2mg capsules	88441998	02.05.05.01
RAMIPRIL tabs 2.5mg + 5mg + 10mg	83835998	02.05.05.01
LISINO+HYDROCHL 20/12.5mg tabs	93748998	02.05.05.01
CAPTOP+HYDROCHL 25/12.5mg tabs	94868997	02.05.05.01
Perindopril arginine 2.5mg tablets	84041998	02.05.05.01
QUINAPRIL+HYDROCHLOROTHIAZIDE	93102998	02.05.05.01
CILAZAPRIL 1mg tablets	99384996	02.05.05.01
Perindopril arginine 10mg tablets	84039998	02.05.05.01
TRANDOLAPRIL 500mcg capsules	93928998	02.05.05.01
Ramipril 10mg tablets	94713990	02.05.05.01
RAMIPRIL 10mg capsules	98153998	02.05.05.01
CILAZAPRIL 5mg tablets	98169997	02.05.05.01
PERINDOPRIL ARGININE 5mg tabs	84037998	02.05.05.01
Ramipril 2.5mg/5ml oral suspension	86138998	02.05.05.01
PERINDOPRIL ERBUMINE 8mg tabs	89424998	02.05.05.01

TRANDOL+VERAP 2/180mg m/r caps	88425998	02.05.05.01
QUINAPRIL 40mg tablets	92732998	02.05.05.01
LISINO+HYDROCHL 10/12.5mg tabs	83449998	02.05.05.01
Captopril 5mg/5ml oral suspension	87064998	02.05.05.01
Lisinopril 5mg/5ml oral solution	87261998	02.05.05.01
RAMIPRIL 1.25mg tablets	87902998	02.05.05.01
Ramipril 10mg capsules	94509990	02.05.05.01
PERINDOPRIL ARGININE 2.5mg tab	84038998	02.05.05.01
Ramipril 5mg tablets	94717990	02.05.05.01
PERINDOPRIL ARGININE 10mg tabs	84036998	02.05.05.01
Enalapril 10mg tablets	96679988	02.05.05.01
Cilazapril 500microgram tablets	99660997	02.05.05.01
HYDROCHLOROTHIAZIDE + CAPTOPRIL tabs 25mg + 50mg	94553998	02.05.05.01
CILAZAPRIL 500mcg tablets	99384997	02.05.05.01
Perindopril 4mg/5ml oral suspension	86129998	02.05.05.01
Lisinopril 10mg tablets	95788990	02.05.05.01
LISINO+HYDROCHL 10/12.5mg tabs	93748997	02.05.05.01
Ramipril 5mg capsules	95146990	02.05.05.01
Lisinopril 20mg tablets	95688990	02.05.05.01
Generic Tritace titration pack capsules	88714998	02.05.05.01
CAPTOPRIL + HYDROCHLOROTHIAZIDE tabs 25mg + 12.5mg	94869997	02.05.05.01
Ramipril 2.5mg tablets	94719990	02.05.05.01
CAPTOPRIL 4 MG/ML LIQ	96099992	02.05.05.01
CAPTOPRIL tabs 2mg	90049998	02.05.05.01
Ramipril 10mg/5ml oral suspension	85496998	02.05.05.01
Lisinopril 10mg tablets	95689990	02.05.05.01
TRANDOLAPRIL + VERAPAMIL mr cap 2mg + 180mg	88433998	02.05.05.01
TRANDOLAPRIL 4mg capsules	87621998	02.05.05.01

Lisinopril 5mg tablets	95789990	02.05.05.01
CAPTOPRIL oral liq 3mg/5ml	87812998	02.05.05.01
Moexipril 15mg tablets	90816997	02.05.05.01
IMIDAPRIL HCL 10mg tablets	90533997	02.05.05.01
Co-zidocapt 12.5mg/25mg tablets	89061997	02.05.05.01
Lisinopril 20mg tablets	95787990	02.05.05.01
Ramipril 10mg capsules	95145990	02.05.05.01
Moexipril 7.5mg tablets	90816998	02.05.05.01
LISINO+HYDROCHL 20/12.5mg tabs	83436998	02.05.05.01
Ramipril 2.5mg capsules	95149990	02.05.05.01
Enalapril 5mg/5ml oral solution	84315998	02.05.05.01
Lisinopril 5mg/5ml oral suspension	84061998	02.05.05.01
Enalapril 5mg/5ml oral suspension	84314998	02.05.05.01
Lisinopril 5mg tablets	95690990	02.05.05.01
IMIDAPRIL HCL 20mg tablets	90533996	02.05.05.01
IMIDAPRIL HCL 5mg tablets	90533998	02.05.05.01
Ramipril 1.25mg capsules	95150990	02.05.05.01
Enalapril 20mg tablets	96900990	02.05.05.01
CAPTOPRIL 25mg tablets	89058997	02.05.05.01
Enalapril 10mg tablets	96902988	02.05.05.01
Captopril 5mg/ml oral solution sugar free	81937998	02.05.05.01
CILAZAPRIL tabs 250micrograms	99660998	02.05.05.01
Perindopril erbumine 8mg tablets	93329990	02.05.05.01
Captopril 25mg tablets	97820989	02.05.05.01
RAMIPRIL 2.5mg+5mg+10mg pack	83832998	02.05.05.01
CAPTOPRIL 100 MG TAB	97086992	02.05.05.01
ENALAPRIL MAL tabs titre pack	97359997	02.05.05.01
Perindopril erbumine 2mg tablets	93331990	02.05.05.01
Lisinopril 7.5mg/5ml oral suspension	86350998	02.05.05.01
Enalapril 2.5mg tablets	96902990	02.05.05.01
CAPTOPRIL 12.5mg tablets	89058998	02.05.05.01
Ramipril 5mg capsules	95137990	02.05.05.01

RAMIPRIL 10mg tablets	87699998	02.05.05.01
Captopril 50mg tablets	97833988	02.05.05.01
Ramipril 2.5mg capsules	95129990	02.05.05.01
Lisinopril 2.5mg tablets	95691990	02.05.05.01
ENALAPRIL titration pack	96795997	02.05.05.01
Enalapril 20mg tablets	96689990	02.05.05.01
Ramipril 5mg/5ml oral solution	81693998	02.05.05.01
Ramipril 2.5mg capsules	95135990	02.05.05.01
HYDROCHLOROTHIAZIDE + CAPTOPRIL tabs 12.5mg + 25mg	94553997	02.05.05.01
Perindopril erbumine 4mg tablets	92439990	02.05.05.01
Enalapril 5mg tablets	96679989	02.05.05.01
Captopril 6.25mg/5ml oral suspension	86454998	02.05.05.01
Enalapril 5mg tablets	98058990	02.05.05.01
Lisinopril 2.5mg tablets	95790990	02.05.05.01
MOEXIPRIL HCL 7.5mg tablets	90817998	02.05.05.01
ENALAPRIL MAL 10mg tabs x28	93459996	02.05.05.01
ENALAPRIL wafer 5mg	91958998	02.05.05.01
ENALAPRIL wafer 10mg	91958997	02.05.05.01
LISINO+HYDROCHL 10/12.5mg tabs	83435998	02.05.05.01
Captopril 12.5mg/5ml oral suspension	85460998	02.05.05.01
Enalapril 2.5mg tablets	96690990	02.05.05.01
Enalapril 20mg tablets	96678990	02.05.05.01
ENALAPRIL MALEATE 20mg tablets	97491998	02.05.05.01
ENALAPRIL MALEATE 10mg wafer	88349996	02.05.05.01
Enalapril 20mg tablets	96667990	02.05.05.01
Ramipril 5mg capsules	95101990	02.05.05.01
Perindopril erbumine 4mg tablets	93330990	02.05.05.01
Ramipril 10mg capsules	95136990	02.05.05.01
Captopril 25mg tablets	97833989	02.05.05.01
MOEXIPRIL HCL 15mg tablets	90817997	02.05.05.01
Enalapril 20mg tablets	96664990	02.05.05.01
Ramipril 2.5mg capsules	95138990	02.05.05.01

Enalapril 5mg tablets	96180990	02.05.05.01
Enalapril 5mg tablets	96668989	02.05.05.01
Ramipril 10mg capsules	94633990	02.05.05.01
Captopril 50mg tablets	97793988	02.05.05.01
RAMIPRIL 1.25mg tablets	93727992	02.05.05.01
Lisinopril 20mg tablets	95678990	02.05.05.01
Lisinopril 10mg tablets	95674990	02.05.05.01
Lisinopril 20mg tablets	95712990	02.05.05.01
Ramipril 10mg capsules	95133990	02.05.05.01
CAPTOP+HYDROCHL 25/12.5mg tabs	83623998	02.05.05.01
Captopril 25mg tablets	97831989	02.05.05.01
Captopril 25mg tablets	97139989	02.05.05.01
Captopril 25mg tablets	97821989	02.05.05.01
Ramipril 2.5mg capsules	95102990	02.05.05.01
Captopril 25mg tablets	97832989	02.05.05.01
Captopril 12.5mg tablets	97139990	02.05.05.01
Ramipril 2.5mg/5ml oral solution sugar free	81099998	02.05.05.01
Lisinopril 5mg tablets	95675990	02.05.05.01
Lisinopril 5mg tablets	95680990	02.05.05.01
Perindopril erbumine 2mg tablets	92887990	02.05.05.01
Lisinopril 20mg tablets	95673990	02.05.05.01
ENALAPRIL MALEATE 5mg wafer	88349997	02.05.05.01
Perindopril erbumine 4mg tablets	92960990	02.05.05.01
Ramipril 10mg capsules	95127990	02.05.05.01
Captopril 5mg/5ml oral solution	81128998	02.05.05.01
ENALAPRIL wafer 2.5mg	96795996	02.05.05.01
Enalapril 10mg tablets	96661988	02.05.05.01
Enalapril 10mg tablets	96668988	02.05.05.01
Captopril 12.5mg tablets	97833990	02.05.05.01
Lisinopril 10mg / Hydrochlorothiazide 12.5mg tablets	94993990	02.05.05.01
Captopril 25mg tablets	97040990	02.05.05.01
Lisinopril 5mg tablets	95684990	02.05.05.01
CAPTOPRIL 50mg tablets x56	89058996	02.05.05.01
CAPTOPRIL 50mg tablets	89069996	02.05.05.01
Ramipril 10mg capsules	95100990	02.05.05.01
Ramipril 5mg capsules	95128990	02.05.05.01

ENALAPRIL MALEATE 5mg tabs x2	93459997	02.05.05.01
Lisinopril 20mg / Hydrochlorothiazide 12.5mg tablets	94992990	02.05.05.01
Ramipril 10mg capsules	95058990	02.05.05.01
Lisinopril 5mg tablets	95717990	02.05.05.01
CILAZAPRIL 250mcg tablets	99384998	02.05.05.01
ENALAPRIL MALEATE 2.5mg wafer	88349998	02.05.05.01
ENALAPRIL wafer 20mg	91958996	02.05.05.01
Captopril 50mg tablets	97039990	02.05.05.01
Ramipril 5mg capsules	95043990	02.05.05.01
Enalapril 10mg tablets	96690988	02.05.05.01
Ramipril 5mg capsules	94510990	02.05.05.01
Captopril 12.5mg tablets	97793990	02.05.05.01
RAMIPRIL 1.25mg tablets	87702998	02.05.05.01
Enalapril 10mg tablets	96687988	02.05.05.01
Enalapril 5mg tablets	96690989	02.05.05.01
Captopril 25mg tablets	97793989	02.05.05.01
Ramipril 10mg capsules	95042990	02.05.05.01
Ramipril 5mg capsules	95059990	02.05.05.01
Captopril 50mg tablets	88508996	02.05.05.01
Enalapril 20mg tablets	96178990	02.05.05.01
Ramipril 1.25mg capsules	95061990	02.05.05.01
Captopril 50mg tablets	97832988	02.05.05.01
Ramipril 5mg capsules	95134990	02.05.05.01
Perindopril erbumine 4mg tablets	92886990	02.05.05.01
Perindopril erbumine 8mg tablets	92885990	02.05.05.01
Co-zidocapt 25mg/50mg tablets	95635990	02.05.05.01
ENALAPRIL MALEATE 20mg wafer	88350998	02.05.05.01
Enalapril 10mg tablets	96665988	02.05.05.01
Ramipril 5mg/5ml oral suspension	81098998	02.05.05.01
Enalapril 5mg tablets	96687989	02.05.05.01
Enalapril 5mg tablets	96902989	02.05.05.01
CAPTOPRIL 25mg tablets	89069997	02.05.05.01
Lisinopril 20mg tablets	95699990	02.05.05.01
CAPTOPRIL oral susp 2mg/5ml	84572998	02.05.05.01
Captopril 12.5mg tablets	88508998	02.05.05.01

Ramipril 10mg capsules	94833990	02.05.05.01
Lisinopril 2.5mg tablets	95702990	02.05.05.01
Enalapril 2.5mg tablets	92887998	02.05.05.01
Captopril 12.5mg tablets	97831990	02.05.05.01
Ramipril 1.25mg capsules	95103990	02.05.05.01
Ramipril 5mg tablets	95147990	02.05.05.01
Enalapril 20mg tablets	96686990	02.05.05.01
Captopril 12.5mg tablets	97832990	02.05.05.01
Lisinopril 10mg tablets	95700990	02.05.05.01
Enalapril 5mg tablets	96665989	02.05.05.01
Lisinopril 10mg tablets	94561990	02.05.05.01
Lisinopril 10mg tablets	93896990	02.05.05.01
Captopril 12.5mg tablets	97820990	02.05.05.01
Ramipril 2.5mg capsules	94511990	02.05.05.01
Ramipril 2.5mg tablets	95148990	02.05.05.01
Lisinopril 5mg tablets	95723990	02.05.05.01
Enalapril 20mg tablets	96657990	02.05.05.01
LISINO+HYDROCHL 20/12.5mg tabs	87515998	02.05.05.01
Ramipril 1.25mg capsules	94972990	02.05.05.01
TRANDOLAPRIL 2mg capsules	94867996	02.05.05.01
Enalapril 20mg tablets	89543998	02.05.05.01
Ramipril 5mg capsules	94834990	02.05.05.01
Captopril 5mg tablets	84568998	02.05.05.01
Lisinopril 20mg tablets	95682990	02.05.05.01
Ramipril 1.25mg capsules	94636990	02.05.05.01
PERINDOPRIL ARGININE 5mg tabs	61229979	02.05.05.01
TRANDOLAPRIL 500mcg capsules	94867998	02.05.05.01
Ramipril 2.5mg capsules	95044990	02.05.05.01
RAMIPRIL 2.5mg tablets	94040992	02.05.05.01
CAPTOPRIL 12.5mg tablets	89069998	02.05.05.01
CAPTOP+HYDROCHL 25/12.5mg tabs	90740998	02.05.05.01
CAPTOPRIL 25mg tablets x56	89102997	02.05.05.01
RAMIPRIL 1.25mg capsules	87226998	02.05.05.01
QUINAPRIL 5mg tablets	86898998	02.05.05.01
Enalapril 2.5mg tablets	96687990	02.05.05.01
Enalapril 5mg tablets	92887997	02.05.05.01
Enalapril 10mg tablets	92887996	02.05.05.01

Lisinopril 2.5mg tablets	95685990	02.05.05.01
TRANDOLAPRIL 1mg capsules	94867997	02.05.05.01
Lisinopril 5mg tablets	95701990	02.05.05.01
Lisinopril 2.5mg tablets	95724990	02.05.05.01
Enalapril 2.5mg tablets	96658990	02.05.05.01
Ramipril 10mg/5ml oral solution	79276979	02.05.05.01
QUINAPRIL oral susp 20mg/5ml	83702998	02.05.05.01
CAPTOP+HYDROCHL 50/25mg tabs	94868998	02.05.05.00
Felodipine 5mg modified-release / Ramipril 5mg tablets	91780997	02.00.00.00
RAMIPRIL + FELODIPINE mr tab 5mg + 5mg	90445997	02.00.00.00
Felodipine 2.5mg modified-release / Ramipril 2.5mg tablets	91780998	02.00.00.00
RAMIPRIL + FELODIPINE mr tab 2.5mg + 2.5mg	90445998	02.00.00.00
FELODIPINE+RAMIPRIL 5/5mg tabs	88457998	02.00.00.00
FELODIP+RAMIPRL 2.5/2.5mg tabs	88461998	02.00.00.00

### Lipid Lowering Agent Description, Multilex Code, and BNF Code

Description	Multilex Code	BNF Code
Simvastatin 40mg tablets	93619996	02.12.00.00
Simvastatin 20mg tablets	93619997	02.12.00.00
Atorvastatin 10mg tablets	89311998	02.12.00.00
Simvastatin 10mg tablets	93619998	02.12.00.00
Atorvastatin 20mg tablets	89311997	02.12.00.00
Atorvastatin 40mg tablets	89311996	02.12.00.00
Ezetimibe 10mg tablets	92292998	02.12.00.00
Pravastatin 40mg tablets	93244996	02.12.00.00
Rosuvastatin 10mg tablets	88534998	02.12.00.00
Atorvastatin 80mg tablets	90310998	02.12.00.00
Pravastatin 20mg tablets	93244997	02.12.00.00
Pravastatin 10mg tablets	93244998	02.12.00.00
Bezafibrate 400mg modified-release tablets	95952997	02.12.00.00
Simvastatin 80mg tablets	92220998	02.12.00.00

Rosuvastatin 20mg tablets	90973998	02.12.00.00
SIMVASTATIN 40mg tablets	87916998	02.12.00.00
Fluvastatin 40mg capsules	92804997	02.12.00.00
Eicosapentaenoic acid 460mg / Docosahexaenoic acid 380mg capsules	89800998	02.12.00.00
Fluvastatin 20mg capsules	92804998	02.12.00.00
Rosuvastatin 5mg tablets	86468998	02.12.00.00
BEZAFIBRATE 400mg m/r tablets	97895997	02.12.00.00
Ciprofibrate 100mg tablets	97723998	02.12.00.00
SIMVASTATIN 10mg tablets	93620998	02.12.00.00
Bezafibrate 200mg tablets	95952998	02.12.00.00
SIMVASTATIN 20mg tablets	87917998	02.12.00.00
Fenofibrate micronised 160mg tablets	92460998	02.12.00.00
FENOFIBRATE 200mg capsules	88298996	02.12.00.00
ATORVASTATIN 10mg tablets	89306998	02.12.00.00
Fenofibrate micronised 267mg capsules	88298997	02.12.00.00
BEZAFIBRATE 400mg m/r tablets	99014998	02.12.00.00
EZETIMIBE 10mg tablets	92293998	02.12.00.00
Cerivastatin 100microgram tablets	89154998	02.12.00.00
Rosuvastatin 40mg tablets	92410998	02.12.00.00
Colestyramine 4g oral powder sachets	96678998	02.12.00.00
SIMVASTATIN 20mg tablets	93620997	02.12.00.00
PRAVASTATIN SODIUM 10mg tabs	93243998	02.12.00.00
SIMVASTATIN 10mg tablets	87918998	02.12.00.00
Fluvastatin 80mg modified- release tablets	92804996	02.12.00.00
ATORVASTATIN 20mg tablets	89306997	02.12.00.00
Colestyramine sugar free pdr	99197998	02.12.00.00
PRAVASTATIN 20mg tablets	93243997	02.12.00.00
Cerivastatin 200microgram tablets	89154997	02.12.00.00
ROSUVASTATIN 10mg tablets	92409998	02.12.00.00
BEZAFIBRATE 200mg tablets	97895998	02.12.00.00

Cerivastatin 400microgram tablets	92448998	02.12.00.00
PRAVASTATIN SODIUM 40mg tabs	93243996	02.12.00.00
CIPROFIBRATE 100mg tablets	97751998	02.12.00.00
COLESTY+ASPARTAME 4g/sach pdr	93542998	02.12.00.00
FENOFIBRATE 160mg m/r tablets	94799998	02.12.00.00
Fenofibrate 200mg capsules	94188997	02.12.00.00
ATORVASTATIN 40mg tablets	89306996	02.12.00.00
BEZAFIBRATE 400mg m/r tablets	83187998	02.12.00.00
Gemfibrozil 600mg tablets	96295997	02.12.00.00
FENOFIBRATE 200mg capsules	88297997	02.12.00.00
Simvastatin 40mg / Ezetimibe 10mg tablets	86796998	02.12.00.00
Gemfibrozil 300mg capsules	96295998	02.12.00.00
Fenofibrate micronised 67mg capsules	88298998	02.12.00.00
SIMVASTATIN + EZETIMIBE tabs 40mg + 10mg	86788998	02.12.00.00
FENOFIBRATE 267mg capsules	88297996	02.12.00.00
FLUVASTATIN 20mg capsules	92805998	02.12.00.00
FENOFIBRATE 200mg capsules	94189997	02.12.00.00
CERIVASTATIN Na 100mcgs tabs	89153998	02.12.00.00
GEMFIBROZIL 300mg capsules	97247998	02.12.00.00
Cerivastatin 300microgram tablets	89154996	02.12.00.00
Simvastatin 20mg / Ezetimibe 10mg tablets	86798998	02.12.00.00
FLUVASTATIN 40mg capsules	92805997	02.12.00.00
SIMVASTATIN 40mg tablets	93620996	02.12.00.00
Simvastatin 40mg tablets	95549990	02.12.00.00
Colestipol 5g granules sachets sugar free	94662998	02.12.00.00
Colestyramine 4g oral powder sachets sugar free	93541998	02.12.00.00

ROSUVASTATIN 20mg tablets	92408998	02.12.00.00
CLOFIBRATE 500mg capsules	98455998	02.12.00.00
COLESTIPOL granules 5g sachet	94661998	02.12.00.00
FENOFIBRATE 100mg capsules	94189998	02.12.00.00
SIMVASTATIN sf oral susp 20mg/5ml	86020998	02.12.04.00
GEMFIBROZIL 600mg tablets	97247997	02.12.00.00
SIMVAST 20mg/EZETIMIB 10mg tab	86797998	02.12.00.00
SIMVASTATIN + EZETIMIBE tabs 20mg + 10mg	86789998	02.12.00.00
CLOFIBRATE caps 500mg	96642998	02.12.00.00
SIMVAST 40mg/EZETIMIB 10mg tab	86795998	02.12.00.00
Nicotinic acid 50mg tablets	98066997	02.12.00.00
Simvastatin 80mg / Ezetimibe 10mg tablets	86794998	02.12.00.00
CERIVASTATIN Na 200mcg tabs	89153997	02.12.00.00
NICOTINIC ACID 1000mg m/r tab	87850998	02.12.00.00
FENOFIBRATE caps 100mg	94188998	02.12.00.00
COLESTIPOL orang 5g/sach grans	94661997	02.12.00.00
FENOFIBRATE 67mg capsules	88297998	02.12.00.00
ATORVASTATIN 80mg tablets	90309998	02.12.00.00
NICOTINIC ACID 500mg m/r tabs	87852998	02.12.00.00
Eicosapentaenoic acid 170mg / Docosahexaenoic acid 115mg capsules	94925998	02.12.00.00
ROSUVASTATIN 5mg tablets	86467998	02.12.00.00
SIMVASTATIN sf oral susp 40mg/5ml	83099998	02.12.00.00
SIMVASTATIN + EZETIMIBE tabs 80mg + 10mg	86787998	02.12.00.00
Colesevelam 625mg tablets	84268998	02.12.00.00
NICOFURANOSE 250mg tablets	98108998	02.12.00.00
ISPAG HSK 3.5g ornge s/f gran	89617998	02.12.00.00
PROBUCOL tabs 250mg	95401998	02.12.00.00

Nicotinic acid 1g modified-release tablets	87853998	02.12.00.00
FLUVASTATIN 80mg m/r tablets	91194998	02.12.00.00
BEZAFIBRATE 200mg tablets	83188998	02.12.00.00
NICOTINC/LAROP 1g/20mg m/r tab	82655998	02.12.00.00
NICOTINIC ACID 750mg m/r tabs	87851998	02.12.00.00
Simvastatin 80mg tablets	95448990	02.12.00.00
Simvastatin 40mg tablets	95501990	02.12.00.00
Nicotinic acid 500mg modified-release tablets	87855998	02.12.00.00
ROSUVASTATIN 40mg tablets	92539998	02.12.00.00
SIMVAST 80mg/EZETIMIB 10mg tab	86791998	02.12.00.00
CERIVASTATIN Na 300mcg tabs	89153996	02.12.00.00
COLESTIPOL orang 5g/sach grans	87760998	02.12.00.00
CERIVASTATIN Na 400mcg tabs	92447998	02.12.00.00
Nicotinic acid 1g / Laropiprant 20mg modified-release tablets	83594998	02.12.00.00
NICOFURANOSE tabs 250mg	95728998	02.12.00.00
Nicotinic acid 750mg modified-release tablets	87854998	02.12.00.00
SIMVASTATIN 80mg tablets	92471998	02.12.00.00
NICOTINIC ACID starter pack	87848998	02.12.00.00
COLESEVELAM 625mg tablets	84267998	02.12.00.00
PROBUCOL 250mg tablets	99456998	02.12.00.00
Simvastatin 20mg tablets	95550990	02.12.00.00
Simvastatin 20mg tablets	95494990	02.12.00.00
Simvastatin 20mg tablets	95502990	02.12.00.00
CHOLESTYRAMINE POW	94827992	02.12.00.00
Simvastatin 40mg tablets	95493990	02.12.00.00
Simvastatin 20mg tablets	95450990	02.12.00.00
Simvastatin 10mg tablets	95551990	02.12.00.00
NICOTINIC ACID tabs 100mg	98066996	02.12.00.00
Bezafibrate 400mg modified-release tablets	96685990	02.12.00.00
CHOLESTYRAMINE 325 MG CAP	94112992	02.12.00.00

SIMVASTATIN 80mg tablets	83030998	02.12.00.00
Bezafibrate 400mg modified-release tablets	87025998	02.12.00.00
BEZAFIBRATE 400mg m/r tablets	89089998	02.12.00.00
NICOTINIC ACID mr tab 375mg + 500mg + 750mg	87849998	02.12.00.00
Simvastatin 80mg tablets	95500990	02.12.00.00
NICOTINIC ACID tabs 25mg	98066998	02.12.00.00
Simvastatin 80mg tablets	95185990	02.12.00.00
Simvastatin 20mg tablets	95482990	02.12.00.00
Eicosapentaenoic acid 170mg/g / Docosahexaenoic acid 115mg/g oral liquid	94925997	02.12.00.00
Simvastatin 40mg tablets	95449990	02.12.00.00
COLESTIPOL + ASPARTAME grans	94605998	02.12.00.00
BEZAFIBRATE 400mg m/r tablets	95805998	02.12.00.00
Simvastatin 40mg tablets	95481990	02.12.00.00
Simvastatin 10mg tablets	95495990	02.12.00.00
Atorvastatin 10mg chewable tablets sugar free	81051998	02.12.00.00
Pravastatin 40mg tablets	94849990	02.12.00.00
HEXOPAL 200 MG TAB	95098992	02.12.00.00
Bezafibrate 200mg tablets	96656990	02.12.00.00
Simvastatin 10mg tablets	95508990	02.12.00.00
Simvastatin 10mg tablets	95451990	02.12.00.00
Simvastatin 20mg tablets	95475990	02.12.00.00
Simvastatin 40mg tablets	95471990	02.12.00.00
Simvastatin 40mg/5ml oral suspension sugar free	62570979	02.12.00.00
NICOTINIC ACID 500 MG TAB	97800992	02.12.00.00
Simvastatin 40mg tablets	95478990	02.12.00.00
Pravastatin 10mg tablets	94789990	02.12.00.00
Colestyramine 4g oral powder sachets sugar free	96134990	02.12.00.00
Atorvastatin 20mg chewable tablets sugar free	81049998	02.12.00.00
COLESTYRAMINE + ASPARTAME sf pwdr 4g	90653998	02.12.00.00
Simvastatin 80mg tablets	95442990	02.12.00.00

Simvastatin 40mg tablets	95486990	02.12.00.00
Simvastatin 40mg tablets	95443990	02.12.00.00
Simvastatin 20mg/5ml oral suspension sugar free	62597979	02.12.00.00
Simvastatin 20mg tablets	95479990	02.12.00.00
Pravastatin 20mg tablets	94782990	02.12.00.00
Pravastatin 20mg tablets	94850990	02.12.00.00
Simvastatin 20mg tablets	95472990	02.12.00.00
Colestyramine 4g oral powder sachets sugar free	95847990	02.12.00.00
Simvastatin 10mg tablets	95483990	02.12.00.00
COLESTIPOL HCl GRA	93851992	02.12.00.00
Gemfibrozil 600mg tablets	97808989	02.12.00.00
Colestyramine 4g oral powder sachets sugar free	97655990	02.12.00.00
Simvastatin 40mg tablets	95474990	02.12.00.00
ATORVASTATIN 10mg chew tabs	81050998	02.12.00.00
Simvastatin 20mg tablets	95487990	02.12.00.00
Pravastatin 10mg tablets	94851990	02.12.00.00
Simvastatin 40mg tablets	95277990	02.12.00.00
Atorvastatin 60mg tablets	58151979	02.12.04.00
Bezafibrate 200mg tablets	96685989	02.12.00.00
Simvastatin 20mg tablets	95406990	02.12.00.00
Bezafibrate 200mg tablets	93838990	02.12.00.00
Fenofibrate micronised 200mg capsules	96021990	02.12.00.00
FISH OIL(CONC) oral emulsion	97078996	02.12.00.00
Atorvastatin 30mg tablets	58153979	02.12.04.00
Simvastatin 20mg/5ml oral suspension sugar free	92154990	02.12.00.00
SIMVASTATIN 10mg tablets	87373998	02.12.00.00
Simvastatin 80mg tablets	94927990	02.12.00.00
ATORVASTATIN 20mg chew tabs	81048998	02.12.00.00
Fenofibrate micronised 200mg capsules	92549990	02.12.00.00
COLESTYRAM SUG FREE pdr 4g	91316998	02.12.00.00
BEZAFIBRATE 400mg m/r tablets	89401998	02.12.00.00
Atorvastatin 10mg/5ml oral solution	64588979	02.12.04.00

Simvastatin 40mg tablets	93871990	02.12.00.00
Simvastatin 20mg tablets	94407990	02.12.00.00
Pravastatin 20mg tablets	94830990	02.12.00.00
Simvastatin 20mg tablets	95278990	02.12.00.00
Nicotinic acid 50mg tablets	99725990	02.12.00.00
ATORVASTATIN 80mg tablets	99957979	02.12.00.00
Cerivastatin 800microgram tablets	92448997	02.12.00.00
Simvastatin 20mg tablets	97494979	02.12.00.00
Simvastatin 10mg tablets	95480990	02.12.00.00
SIMVASTATIN 10mg tablets	87418998	02.12.00.00
FENOFIBRATE 200mg capsules	90649998	02.12.00.00
Simvastatin 10mg tablets	95445990	02.12.00.00
Simvastatin 40mg tablets	95405990	02.12.00.00
Eicosapentaenoic acid 460mg / Docosahexaenoic acid 380mg capsules	92329998	02.12.06.00
Acipimox 250mg capsules	94883998	02.12.00.00
ACIPIMOX 250mg capsules	94882998	02.12.00.00

### Diuretics Description, Multilex Code, and BNF Code

Description	Multilex Code	BNF Code
Bendroflumethiazide 2.5mg tablets	97217998	02.02.01.00
Furosemide 40mg tablets	97114997	02.02.02.00
Furosemide 20mg tablets	97114998	02.02.02.00
Co-amilofruse 5mg/40mg tablets	93212998	02.02.04.00
Bendroflumethiazide 5mg tablets	97217997	02.02.01.00
Bumetanide 1mg tablets	95936998	02.02.02.00
Spironolactone 25mg tablets	97201998	02.02.03.00
CO-AMILOFRUSE tablets	98742998	02.02.04.00
Indapamide 1.5mg modified-release tablets	96129997	02.02.01.00
Indapamide 2.5mg tablets	96129998	02.02.01.00
CO-AMILOZIDE 5/50mg tablets	99405998	02.02.04.00
Amiloride 5mg tablets	97224998	02.02.03.00
CO-TRIAMTERZIDE 50/25mg tabs	99709998	02.02.04.00
Co-amilozide 5mg/50mg tablets	94146997	02.02.04.00
Co-amilofruse 2.5mg/20mg tablets	93212997	02.02.04.00
CO-TENIDONE 100/25mg tablets	98301998	02.04.00.00
Co-tenidone 50mg/12.5mg tablets	93219998	02.04.00.00

Co-tenidone 100mg/25mg tablets	93219997	02.04.00.00
BUMETAN+K 500mcg/7.7mmol tabs	98941998	02.02.08.00
Spironolactone 50mg tablets	97201997	02.02.03.00
AMILORIDE+CYCLOPEN 2.5/0.25mg	93401998	02.02.04.00
Spironolactone 100mg tablets	97201996	02.02.03.00
CO-TENIDONE 50/12.5mg tablets	99068998	02.04.00.00
INDAPAMIDE 2.5mg tablets	97295998	02.02.01.00
Lisinopril 20mg / Hydrochlorothiazide 12.5mg tablets	99328998	02.05.05.01
FUROSEMIDE + AMILORIDE tabs 40mg + 5mg	96475998	02.02.04.00
CYCLOPENTHIAZIDE -K tabs	99372998	02.02.08.00
TRIAMT+FUROSEMIDE 50/40mg tabs	99620998	02.02.04.00
ATENOLOL + CHLORTALIDONE tabs 100mg+25mg	95021997	02.04.00.00
Co-amilozide 2.5mg/25mg tablets	94146998	02.02.04.00
ATENOLOL + CHLORTALIDONE tabs 50mg+12.5mg	95021998	02.04.00.00
AMILORIDE+BUMETAN 5mg/1mg tabs	93195998	02.02.04.00
CO-AMILOZIDE 2.5/25mg tablets	97486998	02.02.04.00
Co-triamterzide 50mg/25mg tablets	97731998	02.02.04.00
CO-AMILOFRUSE 2.5/20mg tablets	98742997	02.02.04.00
CO-AMILOFRUSE tablets	94917998	02.02.04.00
Losartan 50mg / Hydrochlorothiazide 12.5mg tablets	91240998	02.05.05.02
BUMETANIDE 1mg tablets	99867998	02.02.02.00
CAPTOP+HYDROCHL 50/25mg tabs	94868998	02.05.05.00
Bumetanide 500microgram / Potassium chloride 573mg (potassium 7.7mmol) modified-release tablets	95934998	02.02.08.00
Metolazone 5mg tablets	95827998	02.02.01.00
Perindopril erbumine 4mg / Indapamide 1.25mg tablets	89305998	02.05.05.01
Lisinopril 10mg / Hydrochlorothiazide 12.5mg tablets	99328997	02.05.05.01
Irbesartan 300mg / Hydrochlorothiazide 12.5mg tablets	91089997	02.05.05.02
INDAPAMIDE 1.5mg m/r tablets	89237998	02.02.01.00
AMILORIDE HCl + HYDROCHLOROTHIAZIDE tabs 5mg + 50mg	94546998	02.02.04.00
LISINO+HYDROCHL 20/12.5mg tabs	99162998	02.05.05.01

FUROSEMIDE+K 40mg/8mmol tabs	99735998	02.02.08.00
FUROSEMIDE 40mg tablets	99491997	02.02.02.00
CO-PRENOZIDE 160/0.25mg tabs	99031998	02.04.00.00
CO-FLUMACTONE-50 tablets	97636997	02.02.04.00
Amiloride 2.5mg / Cyclopenthiiazide 250microgram tablets	93399998	02.02.04.00
Bumetanide 5mg tablets	95936997	02.02.02.00
Chlortalidone 50mg tablets	96685998	02.02.01.00
BENDROFLU+K 2.5mg/8.4mmol tabs	99367998	02.02.08.00
Irbesartan 150mg / Hydrochlorothiazide 12.5mg tablets	91089998	02.05.05.02
Eplerenone 25mg tablets	87219998	02.02.03.00
TRIAMTERENE 50MG HYDROCHLOROTHIAZIDE25MG TAB	93341992	02.02.04.00
BUMETANIDE + AMILORIDE tabs	93194998	02.02.04.00
Furosemide 500mg tablets	97113998	02.02.02.00
BENDROFLUMETHIAZIDE 5mg tablet	99943997	02.02.01.00
Furosemide 40mg/5ml oral solution sugar free	92829998	02.02.02.00
SPIRONOL+FUROSMID 50/20mg caps	99493998	02.02.04.00
Cyclopenthiiazide 500microgram tablets	96587998	02.02.01.00
CYCLOPENTHIAZIDE 500mcg tabs	99373998	02.02.01.00
CO-FLUMACTONE-25 tablets	97636998	02.02.04.00
Hydrochlorothiazide 25mg tablets	96212998	02.02.01.00
FUROSEMIDE+K 20mg/10mmol tabs	99494998	02.02.08.00
IRBES+HYDROCHL 300/12.5mg tabs	89292997	02.05.05.02
LOSART+HYDROCHLTHZ 50/12.5 tab	90077998	02.05.05.02
ENALAP+HYDROCHL 20/12.5mg tabs	99272998	02.05.05.01
Telmisartan 80mg / Hydrochlorothiazide 12.5mg tablets	97251998	02.05.05.02
Perindopril arginine 5mg / Indapamide 1.25mg tablets	84253998	02.05.05.01
FUROSEMIDE + TRIAMTERENE tabs 40mg + 50mg	96474998	02.02.04.00
Losartan 100mg / Hydrochlorothiazide 25mg tablets	86522998	02.05.05.02
TIMOLOL+BENDROFL 10/2.5mg tabs	98816998	02.04.00.00
FUROSEMIDE 40mg tablets	93078998	02.02.02.00
Xipamide 20mg tablets	95616998	02.02.01.00
Amiloride 5mg / Bumetanide 1mg tablets	93192998	02.02.04.00
Enalapril 20mg / Hydrochlorothiazide 12.5mg tablets	99266998	02.05.05.01

XIPAMIDE 20mg tablets	99734998	02.02.01.00
IRBES+HYDROCHL 150/12.5mg tabs	89292998	02.05.05.02
LISINO+HYDROCHL 10/12.5mg tabs	99162997	02.05.05.01
BENDROFLUMETHIAZIDE 2.5mg tabs	99943998	02.02.01.00
CHLORTALIDONE 50mg tablets	99548998	02.02.01.00
PINDOLOL+CLOPAMIDE 10/5mg tabs	98963998	02.04.00.00
FUROSEMIDE + AMILORIDE tabs 20mg + 2.5mg	96475997	02.02.04.00
Furosemide 20mg/5ml oral solution sugar free	97114996	02.02.02.00
Bendroflumethiazide 2.5mg tablets	99792990	02.02.01.00
Co-amilofruse 10mg/80mg tablets	93212996	02.02.04.00
Valsartan 160mg / Hydrochlorothiazide 12.5mg tablets	87428998	02.05.05.02
Torsemide 5mg tablets	92742997	02.02.02.00
PROPRANOL+BENDR 160/5mg m/r	98446998	02.04.00.00
METOPROLOL+HYDROCHL 100/12.5m	99819998	02.04.00.00
TRIAMTERENE + HYDROCHLOROTHIAZIDE tabs 50mg+25mg	95128998	02.02.04.00
CO-AMILOZIDE 5/50mg tablets	93633998	02.02.04.00
Telmisartan 40mg / Hydrochlorothiazide 12.5mg tablets	90547998	02.05.05.02
CO-TRIAMTERZIDE 50/25mg tabs	96069998	02.02.04.00
BENDRO+K 2.5mg/7.7mmol mr tab	99841998	02.02.08.00
BENDROFLUMETHIAZIDE 2.5mg tabs	99894998	02.02.01.00
CO-AMILOFRUSE tablets	97721998	02.02.04.00
FUROSEMIDE 40mg tablets	99723998	02.02.02.00
SOTALOL + HYDROCHLOROTHIAZIDE tabs 160mg + 25mg	95267997	02.04.00.00
Valsartan 80mg / Hydrochlorothiazide 12.5mg tablets	87214998	02.05.05.02
SPIRONOLACTONE 25mg tablets	97637998	02.02.03.00
BENDROFLUMETHIAZIDE 5mg tablet	99368998	02.02.01.00
PROPRANOL+BENDR 80/2.5mg caps	98447998	02.04.00.00
Torsemide 10mg tablets	92742996	02.02.02.00
FUROSEMIDE 20mg tablets	99491998	02.02.02.00
CHLORTHAL tab+K m/r tab pack	99547998	02.02.08.00
PERIND ERB+INDAP 4/1.25mg tabs	88955998	02.05.05.01

ACEBU+HYDROCH 200/12.5mg tabs	99151998	02.04.00.00
Triamterene 50mg / Furosemide 40mg tablets	95125998	02.02.04.00
SPIRONOLACTONE 100mg tablets	97637996	02.02.03.00
Co-zidocapt 25mg/50mg tablets	89061998	02.05.05.01
Bendroflumethiazide 2.5mg / Potassium chloride 630mg (potassium 8.4mmol) modified-release tablets	95094998	02.02.08.00
Bumetanide 1mg/5ml oral solution sugar free	95936996	02.02.02.00
SPIRONOLACTONE 50mg tablets	97637997	02.02.03.00
CO- TRIAMTERZIDE 50/25mg tabs	96205998	02.02.04.00
SPIRONOLACTONE caps 100mg	95261998	02.02.03.00
CYCLOPENTHIAZIDE -K tabs	96586998	02.02.08.00
SOTAL+HYDROCHLOR 160/25mg tab	99118998	02.04.00.00
Valsartan 160mg / Hydrochlorothiazide 25mg tablets	87424998	02.05.05.02
Triamterene 50mg capsules	95129998	02.02.03.00
AMILORIDE HCl + HYDROCHLOROTHIAZIDE tabs 2.5mg+25mg	94546997	02.02.04.00
Quinapril 10mg / Hydrochlorothiazide 12.5mg tablets	93101998	02.05.05.01
Furosemide 40mg tablets	99586989	02.02.02.00
CAPTOP+HYDROCHL 50/25mg tabs	97060998	02.05.05.01
PERIND ARG+INDAP 5/1.25mg tabs	84035998	02.05.05.01
BENDROFLUMETHIAZIDE 2.5mg tabs	92736998	02.02.01.00
POLYTHIAZIDE 1mg tablets	99366998	02.02.01.00
CO-TENIDONE 100/25mg tablets	96070997	02.04.00.00
OXPRENOLOL + CYCLOPENTHIAZIDE mr tab 160mg+0.25mg	93210998	02.04.00.00
Hydrochlorothiazide 50mg tablets	96212997	02.02.01.00
Olmesartan medoxomil 20mg / Hydrochlorothiazide 12.5mg tablets	86093998	02.05.05.02
Furosemide 50mg/5ml oral solution sugar free	92829997	02.02.02.00
SPIRONOLACTONE sf susp 50mg/5ml	92820998	02.02.03.00
Spironolactone 50mg / Furosemide 20mg capsules	95257998	02.02.04.00
Co-flumactone 50mg/50mg tablets	93211997	02.02.04.00
Eplerenone 50mg tablets	87218998	02.02.03.00

FUROSEMIDE paed liq 1mg/ml	92614998	02.02.02.00
Co-prenozide 160mg/0.25mg modified-release tablets	93209998	02.04.00.00
METOLAZONE 5mg tablets	99429998	02.02.01.00
CO-AMILOZIDE 5/50mg tablets	99849992	02.02.04.00
Co-flumactone 25mg/25mg tablets	93211998	02.02.04.00
Torasemide 2.5mg tablets	92742998	02.02.02.00
Atenolol 25mg / Bendroflumethiazide 1.25mg capsules	89290998	02.04.00.00
LOSART+HYDROCHLTHZ 100/25 tabs	86520998	02.05.05.02
Losartan 100mg / Hydrochlorothiazide 12.5mg tablets	84178998	02.05.05.02
CO-AMILOFRUSE tablets	83025998	02.02.04.00
CAPTOPRIL + HYDROCHLOROTHIAZIDE tabs 50mg + 25mg	94869998	02.05.05.01
LISINO+HYDROCHL 20/12.5mg tabs	83448998	02.05.05.01
BUMETANIDE 1mg/5mL liquid	98833998	02.02.02.00
Furosemide 40mg tablets	98679990	02.02.02.00
Amiloride 5mg/5ml oral solution sugar free	97224997	02.02.03.00
Polythiazide 1mg tablets	95469998	02.02.01.00
CO-AMILOFRUSE 10/80mg tablets	98742996	02.02.04.00
CO-AMILOZIDE 5/50mg tablets	82385998	02.02.04.00
CHLOROTHIAZIDE tabs 500mg	96696998	02.02.01.00
Irbesartan 300mg / Hydrochlorothiazide 25mg tablets	85219998	02.05.05.02
FRUSEM tab+POTASS m/r tab pck	98868998	02.02.08.00
ATENOLOL + AMILORIDE & HYDROCHLOROTHIAZIDE caps	94670998	02.04.00.00
BENDROFLUMETHIAZIDE 5mg tablet	99894997	02.02.01.00
TRIAMT+BENZTHIAZ 50/25mg caps	99707998	02.02.04.00
Pindolol 10mg / Clopamide 5mg tablets	95514998	02.04.00.00
VALSRT+HYDROCHL 160/12.5mg tab	87426998	02.05.05.02
LISINO+HYDROCHL 20/12.5mg tabs	93748998	02.05.05.01
SPIRONOLACTONE sf susp 25mg/5ml	92828996	02.02.03.00
Timolol 10mg / Bendroflumethiazide 2.5mg tablets	95161998	02.04.00.00
VALSART+HYDROCHL 80/12.5mg tab	87212998	02.05.05.02
CAPTOP+HYDROCHL 25/12.5mg tabs	94868997	02.05.05.01
QUINAPRIL+HYDROCHLOROTHIAZ	93102998	02.05.05.01

IDE		
CO-TENIDONE 50/12.5mg tablets	96070998	02.04.00.00
Propranolol 80mg / Bendroflumethiazide 2.5mg capsules	94422998	02.04.00.00
METOPROL+CHLORTHAL 100/12.5mg	99459998	02.04.00.00
TELMIS+HYDROCHL 80/12.5mg tabs	99686998	02.05.05.02
Bendroflumethiazide 2.5mg tablets	99790990	02.02.01.00
Bendroflumethiazide 2.5mg tablets	98336989	02.02.01.00
HYDROCHLOROTHIAZIDE + TIMOLOL & AMILORIDE tabs 25mg + 10mg + 2.5mg	94549998	02.04.00.00
Furosemide 20mg tablets	99586990	02.02.02.00
CO-AMILOZIDE 5/50mg/5mL mixt	99405997	02.02.04.00
FUROSEMIDE 40mg tablets	99939998	02.02.02.00
CO-AMILOFRUSE tablets	88154998	02.02.04.00
TIMOLOL 10MG/BENDROFLUAZIDE 2.5MG TAB	96782992	02.04.00.00
FUROSEMIDE 40mg tablets	97092998	02.02.02.00
TRIAMT+CHLORTAL 50mg/50mg tabs	98731998	02.02.04.00
PIRETANIDE caps 6mg	98773998	02.02.02.00
AMILORIDE HCL 5mg tablets	99424998	02.02.03.00
AMILORIDE HCl + FUROSEMIDE tabs 5mg + 40mg	94547997	02.02.04.00
Metoprolol 100mg / Hydrochlorothiazide 12.5mg tablets	94634997	02.04.00.00
BUMETANIDE 5mg tablets	98834998	02.02.02.00
CO-AMILOZIDE 5/50mg tablets	96208998	02.02.04.00
MEFRUSIDE 25mg tablets	99916998	02.02.01.00
MEFRUSIDE tabs 25mg	95908998	02.02.01.00
CHLOROTHIAZIDE 500mg tablets	99161998	02.02.01.00
SPIRONOLACTONE sf susp 5mg/5ml	92828998	02.02.03.00
CO-AMILOFRUSE 2.5/20mg tablets	83621998	02.02.04.00
FRUSEMIDE 40MG/8MMOL POTASSIUM S/R MG TAB	93327992	02.02.08.00
Olmesartan medoxomil 20mg / Hydrochlorothiazide 25mg tablets	86092998	02.05.05.02
ATENOLOL+BENDRO 25/1.25mg cap	89288998	02.04.00.00
NADOLOL+BENDROFLU 40/5mg tabs	99808998	02.04.00.00
TORASEMIDE 5mg tablets	92743997	02.02.02.00
HYDROCHLOROTHIAZIDE 25mg tabs	96209998	02.02.01.00
AMILORIDE HCl +	94546996	02.02.04.00

HYDROCHLOROTHIAZIDE soln 5mg + 50mg/5ml		
TELMIS+HYDROCHL 40/12.5mg tabs	90549998	02.05.05.02
Co-amilofruse 5mg/40mg tablets	98516990	02.02.04.00
TRIAMTERENE 50mg capsules	99708998	02.02.03.00
LISINO+HYDROCHL 10/12.5mg tabs	83449998	02.05.05.01
NADOLOL+BENDROFLU 80/5mg tabs	98367998	02.04.00.00
Bendroflumethiazide 2.5mg/5ml oral suspension	86128998	02.02.01.00
CO-AMILOZIDE 5/50mg tablets	96207998	02.02.04.00
METOPROL+HYDROCH 200/25mg m/r	98600998	02.04.00.00
VALSART+HYDROCHL 160/25mg tabs	87421998	02.05.05.02
Furosemide 40mg / Potassium chloride 600mg (potassium 8mmol) modified-release tablets	96476998	02.02.08.00
Indapamide 2.5mg tablets	97804990	02.02.01.00
SPIRONOLACTONE 100mg tablets	98736996	02.02.03.00
BENDROFLUMETHIAZIDE 5mg tablet	92736997	02.02.01.00
METOLAZONE 500mcg tablets	93846998	02.02.01.00
Bendroflumethiazide 5mg tablets	99792989	02.02.01.00
FRUSEMIDE 20MG/SPIRONOLACTONE 50MG MG CAP	97492992	02.02.04.00
Chlorothiazide 250mg/5ml oral suspension	87956998	02.02.01.00
Propranolol 160mg modified-release / Bendroflumethiazide 5mg capsules	94422997	02.04.00.00
CO-AMILOZIDE 5/50mg tablets	94903998	02.02.04.00
CHLORTHALIDONE 100mg tablets	99548997	02.02.01.00
AMILORIDE HCl + FUROSEMIDE tabs 2.5mg + 20mg	94547998	02.02.04.00
CHLORTALIDONE tabs 100mg	96685997	02.02.01.00
HYDROCHLOROTHIAZIDE + CAPTOPRIL tabs 25mg + 50mg	94553998	02.05.05.01
Furosemide 20mg / Potassium chloride 750mg (potassium 10mmol) modified-release tablets	96476997	02.02.08.00
Furosemide 40mg tablets	99584990	02.02.02.00
SPIRONOLACTONE sf susp 10mg/5ml	92828997	02.02.03.00
METHYLDO+HYDROCL 250/15mg tab	95853998	02.05.02.00

Co-amilofruse 2.5mg/20mg tablets	98009990	02.02.04.00
HYDROCHLOROTHIAZIDE + AMILORIDE tabs 25mg+2.5mg	96211998	02.02.04.00
FUROSEMIDE + AMILORIDE tabs 80mg + 10mg	96475996	02.02.04.00
Co-amilozide 5mg/50mg tablets	98641989	02.02.04.00
Bendroflumethiazide 2.5mg tablets	97557990	02.02.01.00
TIMOLOL+BENDROFL 10/2.5mg tabs	87288998	02.04.00.00
SPIRONOLACTONE 100mg tablets	94765997	02.02.03.00
FRUSEMIDE 20MG/POTASSIUM 10MMOL S/R MG TAB	93323992	02.02.08.00
LISINO+HYDROCHL 10/12.5mg tabs	93748997	02.05.05.01
Co-amilofruse 2.5mg/20mg tablets	97877989	02.02.04.00
OLMESAR+HYDROCH 20/12.5mg tabs	86090998	02.05.05.02
CAPTOPRIL + HYDROCHLOROTHIAZIDE tabs 25mg + 12.5mg	94869997	02.05.05.01
IRBES+HYDROCHL 300mg/25mg tabs	85218998	02.05.05.02
Co-amilofruse 5mg/40mg tablets	98009989	02.02.04.00
Bendroflumethiazide 2.5mg tablets	98144989	02.02.01.00
TORASEMIDE 10mg tablets	92743996	02.02.02.00
INDAPAMIDE 2.5mg tablets	92670998	02.02.01.00
FUROSEMIDE 40mg/5mL s/f soln	89394997	02.02.02.00
Furosemide 20mg tablets	98679988	02.02.02.00
HYDROCHLOROTHIAZIDE + AMILORIDE tabs 50mg + 5mg	96211996	02.02.04.00
Bumetanide 1mg tablets	97830990	02.02.02.00
Furosemide 40mg tablets	98550989	02.02.02.00
SPIRONOLACTONE 100mg capsules	97279996	02.02.03.00
Bendroflumethiazide 5mg tablets	98336990	02.02.01.00
CHLORTALIDONE + ATENOLOL tabs 12.5mg+50mg	96683998	02.04.00.00
BENDRO+K 2.5mg/7.7mmol mr tab	91812998	02.02.08.00
TORASEMIDE 2.5mg tablets	92743998	02.02.02.00
SOTAL+HYDROCHLO 80/12.5mg tab	95264998	02.04.00.00
Triamterene 50mg / Chlortalidone 50mg tablets	95123998	02.02.04.00
Co-zidocapt 12.5mg/25mg tablets	89061997	02.05.05.01
Bendroflumethiazide 2.5mg tablets	94889990	02.02.01.00
Furosemide 5mg/5ml oral solution sugar free	84476998	02.02.02.00
HYDROCHLOROTHIAZIDE + TRIAMTERENE tabs 25mg+50mg	96210998	02.02.04.00

AMILORIDE S/F 5 MG/5ML SOL	96883992	02.02.03.00
AMILORIDE HCL 5mg tablets	99853992	02.02.03.00
BISOPROLOL+HYDROCHLOROTH tabs	92890998	02.04.00.00
LOSART+HYDRCHL 100/12.5mg tabs	84176998	02.05.05.02
RESERPINE + HYDROCHLOROTHIAZIDE tabs	97551998	02.05.02.00
HYDROCHLOROTHIAZIDE + LOSARTAN tabs 12.5mg + 50mg	91577998	02.05.05.02
PIRETANIDE caps 6mg	95499998	02.02.02.00
Spironolactone 25mg tablets	99378990	02.02.03.00
METOPROLOL TARTRATE + CHLORTALIDONE tabs	94635998	02.04.00.00
Bumetanide 1mg tablets	97828990	02.02.02.00
Telmisartan 80mg / Hydrochlorothiazide 25mg tablets	83721998	02.05.05.02
SPIRONOLACTONE 10 MG/5ML LIQ	96862992	02.02.03.00
SPIRONOLACTONE 25mg tablets	98736998	02.02.03.00
OLMESART+HYDROCHL 20/25mg tabs	86089998	02.05.05.02
LISINO+HYDROCHL 20/12.5mg tabs	83436998	02.05.05.01
SPIRONOLACTONE sf susp 100mg/5ml	92820997	02.02.03.00
TIMOLOL+BENDROFL 20/5mg tabs	95159998	02.04.00.00
Co-tenidone 50mg/12.5mg tablets	98344990	02.04.00.00
Co-tenidone 100mg/25mg tablets	98636989	02.04.00.00
CHLORTALIDONE + ATENOLOL tabs 25mg+100mg	96683997	02.04.00.00
Furosemide 20mg tablets	98550990	02.02.02.00
SPIRONOLACTONE 25mg tablets	94765998	02.02.03.00
BENDROFLUMETHIAZIDE + TIMOLOL MALEATE tabs 2.5mg + 10mg	95011998	02.04.00.00
Triamterene 50mg / Benzthiazide 25mg capsules	95126998	02.02.04.00
Co-amilofruse 5mg/40mg tablets	96439990	02.02.04.00
Amiloride 5mg tablets	99878990	02.02.03.00
METOLAZONE low dose tabs 500micrograms	96222998	02.02.01.00
SPIRONOLACTONE + HYDROFLUMETHIAZIDE tabs 50mg+50mg	95260997	02.02.04.00
Bendroflumethiazide 5mg tablets	99790989	02.02.01.00

FUROSEMIDE 20mg/5mL s/f soln	89394998	02.02.02.00
CO-AMILOZIDE (amiloride & hydrochlorothiazide) oral soln 5mg + 50mg/5ml	94146996	02.02.04.00
Spirolactone 25mg tablets	98083990	02.02.03.00
SPIRONOLACTONE 50mg tablets	97279997	02.02.03.00
Furosemide 40mg tablets	98549990	02.02.02.00
AMILORIDE HCL 5mg tablets	94675998	02.02.03.00
Acebutolol 200mg / Hydrochlorothiazide 12.5mg tablets	96990998	02.04.00.00
Co-amilofruse 5mg/40mg tablets	97872990	02.02.04.00
Bumetanide 1mg tablets	97172990	02.02.02.00
Bisoprolol 10mg / Hydrochlorothiazide 6.25mg tablets	92889998	02.04.00.00
ATENOLOL/CHLORTHALIDONE 50 MG TAB	94682992	02.04.00.00
Nadolol 40mg / Bendroflumethiazide 5mg tablets	95765998	02.04.00.00
Bendroflumethiazide 2.5mg / Potassium chloride 573mg (potassium 7.7mmol) modified-release tablets	95094997	02.02.08.00
Furosemide 20mg tablets	99584988	02.02.02.00
Bendroflumethiazide 5mg tablets	97556990	02.02.01.00
Bendroflumethiazide 5mg tablets	98144990	02.02.01.00
EPLERENONE 25mg tablets	87217998	02.02.03.00
Olmesartan medoxomil 40mg / Hydrochlorothiazide 12.5mg tablets	82197998	02.05.05.02
Furosemide 40mg tablets	97021990	02.02.02.00
Spirolactone 25mg tablets	98616990	02.02.03.00
TRIAMT+CHLORTAL 50mg/50mg tabs	94617998	02.02.04.00
SPIRONOLACTONE + HYDROFLUMETHIAZIDE tabs 25mg+25mg	95260998	02.02.04.00
FUROSEMIDE 1mg/1mL liquid	99492998	02.02.02.00
Bendroflumethiazide 2.5mg tablets	96219990	02.02.01.00
Co-tenidone 50mg/12.5mg tablets	98636990	02.04.00.00
HYDROCHLOROTHIAZIDE 25mg tabs	99677998	02.02.01.00
Metoprolol 200mg modified-release / Hydrochlorothiazide 25mg tablets	94634998	02.04.00.00
ETHACRYNIC ACID 50mg tablets	99702998	02.02.02.00
Spirolactone 25mg tablets	98180989	02.02.03.00
ETACRYNIC ACID tabs 50mg	96774998	02.02.02.00

Furosemide 40mg tablets	98626990	02.02.02.00
SPIRONOLACTONE 50mg tablets	98736997	02.02.03.00
HYDROCHLOROTHIAZIDE 50mg tabs	96209997	02.02.01.00
Bumetanide 1mg tablets	97066990	02.02.02.00
HYDROFLUMETHIAZIDE tabs 50mg	96203998	02.02.01.00
SPIRONOLACTONE 25mg tablets	97279998	02.02.03.00
HYDROCHLOROTHIAZIDE + LOSARTAN tabs 25mg + 100mg	86521998	02.05.05.02
FUROSEMIDE 500mg tablets	96472998	02.02.02.00
AMILORIDE 10 MG TAB	93399992	02.02.03.00
AMILORIDE HCl + ATENOLOL & HYDROCHLOROTHIAZIDE caps	94545998	02.04.00.00
MEPROBAMATE + BENDROFLUMETHIAZIDE tabs	99069998	02.02.01.00
HYDROFLUMETHIAZIDE 50mg tabs	97425998	02.02.01.00
Spironolactone 100mg tablets	98616988	02.02.03.00
Amiloride 5mg tablets	97892990	02.02.03.00
Furosemide 50mg/5ml solution for injection ampoules	95120997	02.02.02.00
Spironolactone 50mg tablets	99378989	02.02.03.00
HYDROCHLOROTHIAZIDE + VALSARTAN tabs 12.5mg + 160mg	87427998	02.05.05.02
SOTALOL + HYDROCHLOROTHIAZIDE tabs 80mg + 12.5mg	95267998	02.04.00.00
BENDROFLUAZIDE K 2.5 MG TAB	94699992	02.02.08.00
Co-amilofruse 5mg/40mg tablets	97877990	02.02.04.00
HYDROCHLOROTHIAZIDE + LOSARTAN tabs 12.5mg + 100mg	84177998	02.05.05.02
Co-tenidone 100mg/25mg tablets	98344989	02.04.00.00
Co-amilozide 5mg/50mg tablets	99679990	02.02.04.00
Furosemide 20mg tablets	94369990	02.02.02.00
METHOSERPIDINE + BENZTHIAZIDE tabs	98488998	02.05.02.00
Co-amilozide 5mg/50mg tablets	99680990	02.02.04.00
PENBUTOL+FRUSEM 40/20mg tabs	98775998	02.04.00.00
HYDROCHLOROTHIAZIDE + VALSARTAN tabs 12.5mg + 80mg	87213998	02.05.05.02
TIMOLOL MALEATE + BENDROFLUMETHIAZIDE tabs 20mg + 5mg	95161997	02.04.00.00
Indapamide 2.5mg tablets	97747990	02.02.01.00

AMILORIDE HCl + FUROSEMIDE tabs 10mg + 80mg	94547996	02.02.04.00
BENDROFLUAZIDE K TAB	94700992	02.02.08.00
Spironolactone 50mg tablets	98616989	02.02.03.00
Co-amilofruse 2.5mg/20mg tablets	96062990	02.02.04.00
BENDROFLUAZIDE 10 MG TAB	94702992	02.02.01.00
HYDROCHLOROTHIAZIDE + VALSARTAN tabs 25mg + 160mg	87422998	02.05.05.02
Furosemide 20mg tablets	95301990	02.02.02.00
FUROSEMIDE 50mg/5mL s/f soln	89394996	02.02.02.00
CO-AMILOZIDE 5/50mg tablets	93605998	02.02.04.00
CHLORTHALIDONE 25MG/POTASSIUM6.7MMOL S/R MG TAB	93250992	02.02.08.00
INDAPAMIDE 2.5mg tablets	91818998	02.02.01.00
BENDROFLUMETHIAZIDE 2.5mg tabs	98943998	02.02.01.00
HYDROCHLOROTHIAZIDE + CAPTOPRIL tabs 12.5mg + 25mg	94553997	02.05.05.01
Chlorothiazide 150mg/5ml oral suspension	86041998	02.02.01.00
CO-TENIDONE 100/25mg tablets	97710997	02.04.00.00
Co-tenidone 50mg/12.5mg tablets	98181989	02.04.00.00
Furosemide 40mg tablets	96116990	02.02.02.00
Co-amilozide 2.5mg/25mg tablets	98247989	02.02.04.00
Furosemide 20mg tablets	97021989	02.02.02.00
Indapamide 2.5mg tablets	96862990	02.02.01.00
AMILORIDE 5mg/5mL s/f soln	90026998	02.02.03.00
METHYLDOPA + HYDROCHLOROTHIAZIDE tabs	95855998	02.05.02.00
LISINO+HYDROCHL 10/12.5mg tabs	83435998	02.05.05.01
TIMOLOL MALEATE + AMILORIDE & HYDROCHLOROTHIAZIDE tabs	94551998	02.04.00.00
Co-amilofruse 5mg/40mg tablets	96899990	02.02.04.00
Spironolactone 100mg tablets	99378988	02.02.03.00
Nadolol 80mg / Bendroflumethiazide 5mg tablets	95765997	02.04.00.00
Furosemide 40mg/5ml oral solution sugar free	93517990	02.02.02.00
NATRILIX 5 MG TAB	94243992	02.02.01.00
BENDROFLUMETHIAZIDE + PROPRANOLOL caps 2.5mg + 80mg	95014998	02.04.00.00
HYDROCHLOROTHIAZIDE 50mg	99677997	02.02.01.00

tabs		
INDAPAMIDE 2.5mg tablets	91607998	02.02.01.00
Spirolactone 25mg tablets	94593990	02.02.03.00
BENDROFLUMETHIAZIDE + NADOLOL tabs 5mg + 40mg	95012998	02.04.00.00
BENDRO+K 2.5mg/7.7mmol mr tab	99841997	02.02.08.00
BENDROFLUMETHIAZIDE 5mg tablet	98943997	02.02.01.00
SPIRONOLACTONE 50mg tablets	97600998	02.02.03.00
Co-tenidone 50mg/12.5mg tablets	97769990	02.04.00.00
Co-amilofruse 5mg/40mg tablets	96913990	02.02.04.00
Bumetanide 1mg tablets	97077990	02.02.02.00
CAPTOP+HYDROCHL 25/12.5mg tabs	83623998	02.05.05.01
Furosemide 500mg tablets	99584989	02.02.02.00
Bendroflumethiazide 2.5mg tablets	99791990	02.02.01.00
TELMIS+HYDROCHL 80mg/25mg tabs	83720998	02.05.05.02
CO-AMILOFRUSE tablets	89622998	02.02.04.00
ESIDREX-K TAB	94982992	02.02.08.00
CHLOROTHIAZIDE/SPIRONOLACTO NE/LACTOSE MG POW	94817992	02.02.04.00
Spirolactone 25mg tablets	99379990	02.02.03.00
Bumetanide 1mg tablets	96724990	02.02.02.00
Bendroflumethiazide 2.5mg tablets	98797990	02.02.01.00
Spirolactone 50mg/5ml oral suspension	81077998	02.02.03.00
CLOPAMIDE + POTASSIUM eff tab	99875998	02.02.08.00
Amiloride 5mg tablets	99874990	02.02.03.00
METHYCLOTHIAZIDE 5mg tablets	95861998	02.02.01.00
HYDROCHLOROTHIAZIDE + ATENOLOL & AMILORIDE caps	94671998	02.04.00.00
FUROSEMIDE + PENBUTOLOL tabs	96473998	02.04.00.00
CO-TENIDONE 50/12.5mg tablets	91079998	02.04.00.00
Amiloride 5mg tablets	99877990	02.02.03.00
OLMESARTAN MEDOXOMIL + AMLODIPINE & HYDROCHLOROTHIAZIDE tabs 20mg + 5mg + 12.5mg	81461998	02.02.01.00
Bumetanide 5mg tablets	97830989	02.02.02.00
BENDROFLUMETHIAZIDE + PROPRANOLOL mr cap 5mg + 160mg	95014997	02.04.00.00
FUROSEMIDE oral liq	85004998	23.00.00.00
Bendroflumethiazide 2.5mg tablets	96313990	02.02.01.00
Lisinopril 10mg / Hydrochlorothiazide 12.5mg tablets	94993990	02.05.05.01

INDAPAMIDE 1.5mg m/r tablets	82870998	02.02.01.00
Indapamide 1.5mg modified-release tablets	83406998	02.02.01.00
HYDROCHLOROTHIAZIDE + OLMESARTAN MEDOXOMIL tabs 12.5mg + 20mg	86039998	02.05.05.02
Amiloride 5mg tablets	99875990	02.02.03.00
CLOPAMIDE + PINDOLOL tabs 5mg + 10mg	96630998	02.04.00.00
BENDROFLUMETHIAZIDE 2.5mg tabs	81563998	02.02.01.00
Spironolactone 15mg/5ml oral suspension	86048998	02.02.03.00
SPIRONOLACTONE + PROPRANOLOL tabs	97597998	02.04.00.00
AMILORIDE HCL 5mg tablets	93612998	02.02.03.00
ALDACTIDE 100 MG TAB	94605992	02.02.04.00
CO-AMILOFRUSE 2.5/20mg tablets	92797998	02.02.04.00
Spironolactone 25mg/5ml oral suspension	81078998	02.02.03.00
FUROSEMIDE 20mg/2mL injection	94213992	02.02.02.00
EPLERENONE 50mg tablets	87216998	02.02.03.00
Lisinopril 20mg / Hydrochlorothiazide 12.5mg tablets	94992990	02.05.05.01
BENDROFLUAZIDE 1 MG TAB	94419992	02.02.01.00
Co-tenidone 100mg/25mg tablets	98181990	02.04.00.00
Co-amilofruse 10mg/80mg tablets	98009988	02.02.04.00
INDAPAMIDE 1.5mg m/r tablets	83713998	02.02.01.00
DIL+HYDROCHLOR 150/12.5mg cap	90434998	02.06.02.00
Spironolactone 100mg tablets	98083988	02.02.03.00
Spironolactone 50mg tablets	98082990	02.02.03.00
HYDROCHLOROTHIAZIDE + METOPROLOL TARTRATE tabs 12.5mg + 100mg	94633997	02.04.00.00
OLMESAR+HYDROCH 40/12.5mg tabs	82196998	02.05.05.02
SPIRONOLACTONE sf susp 50mg/5ml	98095990	02.02.03.00
Amiloride 5mg tablets	96934990	02.02.03.00
CO-TENIDONE 100/25mg tablets	91079997	02.04.00.00
Co-tenidone 100mg/25mg tablets	97769989	02.04.00.00
CO-TENIDONE 50/12.5mg tablets	97710998	02.04.00.00
Bumetanide 1mg tablets	96317990	02.02.02.00
Co-amilozide 5mg/50mg tablets	97771990	02.02.04.00
CO-FLUMACTONE-25 tablets	92803998	02.02.04.00

CO-AMILOZIDE 5/50mg tablets	94865998	02.02.04.00
CHLOROTHIAZIDE 250 MG SYR	94811992	02.02.01.00
Co-zidocapt 25mg/50mg tablets	95635990	02.05.05.01
METHYCLOTHIAZIDE tabs 5mg	95862998	02.02.01.00
TRIAMT+CHLOROTHAL 50/25mg tabs	98731997	02.02.04.00
FUROSEMIDE 250mg/25mL inj	94839998	02.02.02.00
METHOSERPIDINE + BENZTHIAZIDE tabs	95870998	02.05.02.00
Bendroflumethiazide 2.5mg tablets	96380990	02.02.01.00
CO-AMILOZIDE 5/50mg tablets	91211998	02.02.04.00
FUROSEMIDE 50mg/5mL injection	98744998	02.02.02.00
CO-TENIDONE 50/12.5mg tablets	93345992	02.04.00.00
HYDROCHLOROTHIAZIDE + OLMESARTAN MEDOXOMIL tabs 25mg + 20mg	86040998	02.05.05.02
SPIRONOLACTONE sf susp 25mg/5ml	98096988	02.02.03.00
Indapamide 1.5mg modified-release tablets	83411998	02.02.01.00
DILTIAZEM & HYDROCHLOROTHIAZIDE mr cap 150mg + 12.5mg	90433998	02.06.02.00
CHLOROTHIAZIDE 60MG / SPIRONOLACTONE 6MG POW	94818992	02.02.04.00
CHLOROTHIAZIDE SACHETS 60 MG	94804992	02.02.01.00
Bumetanide 1mg tablets	96321990	02.02.02.00
OLMESARTAN MEDOXOMIL + AMLODIPINE & HYDROCHLOROTHIAZIDE tabs 40mg + 5mg + 12.5mg	81460998	02.02.01.00
OLMESARTAN MEDOXOMIL + AMLODIPINE & HYDROCHLOROTHIAZIDE tabs 40mg + 10mg + 12.5mg	81459998	02.02.01.00
CHLOROTHIAZIDE 25 MG LIQ	94101992	02.02.01.00
Furosemide 40mg tablets	95002990	02.02.02.00
CHLOROTHIAZIDE 250mg/5mL susp	87955998	02.02.01.00
CHLOROTHIAZIDE 50 MG SUS	94803992	02.02.01.00
Furosemide 20mg tablets	92302990	02.02.02.00
Co-tenidone 100mg/25mg tablets	96895989	02.04.00.00
Co-amilofruse 2.5mg/20mg tablets	96912990	02.02.04.00
SPIRONOLACTONE oral liq	85517998	02.02.03.00
Furosemide 20mg tablets	96342990	02.02.02.00
Bendroflumethiazide 2.5mg tablets	95453990	02.02.01.00

SPIRONOLACTONE 100mg tablets	97188997	02.02.03.00
ABBOLACTONE 25 MG TAB	93662992	02.02.03.00
CO-TENIDONE 100/25mg tablets	93344992	02.04.00.00
LISINO+HYDROCHL 20/12.5mg tabs	87515998	02.05.05.01
FRUSEMIDE 250mg/25mL syringe	99300998	02.02.02.00
CHLOROTHIAZIDE / SPIRONOLACTONE 100 MG POW	94105992	02.02.04.00
MEPROBAMATE + BENDROFLUMETHIAZIDE tabs	95897998	02.02.01.00
Spironolactone 25mg/5ml oral solution	64745979	02.02.03.00
HYDROFLUMETHIAZIDE + SPIRONOLACTONE tabs 50mg+50mg	96202997	02.02.04.00
Spironolactone 50mg tablets	98083989	02.02.03.00
Bendroflumethiazide 2.5mg tablets	95321990	02.02.01.00
Spironolactone 100mg/5ml oral suspension	79158979	02.02.03.00
BENDROFLUAZIDE 40 MG TAB	94701992	02.02.01.00
RESERPINE + BENDROFLUMETHIAZIDE tabs	99996998	02.05.02.00
HYDROCHLOROTHIAZIDE 12.5MG/K 8.1MMOL S/R 12.5 MG TAB	94185992	02.02.08.00
CHLOROTHIAZIDE 40MG /SPIRONOLACTONE 4MG POW	94819992	02.02.04.00
Bumetanide 5mg tablets	97066989	02.02.02.00
Spironolactone 10mg/5ml oral suspension	79164979	02.02.03.00
Furosemide 20mg tablets	93903990	02.02.02.00
INDAPAMIDE 1.5mg m/r tablets	82818998	02.02.01.00
CAPTOP+HYDROCHL 25/12.5mg tabs	90740998	02.05.05.01
CLOPAMIDE + POTASSIUM eff tab	91551998	02.02.08.00
Indapamide 1.5mg modified-release tablets	92687990	02.02.01.00
Spironolactone 50mg tablets	98180990	02.02.03.00
Furosemide 40mg tablets	95602990	02.02.02.00
Furosemide 40mg/5ml oral solution sugar free	99286979	02.02.02.00
Spironolactone 5mg/5ml oral suspension	79180979	02.02.03.00
OLMESARTAN MEDOXOMIL + AMLODIPINE & HYDROCHLOROTHIAZIDE tabs 40mg + 5mg + 25mg	81458998	02.02.01.00
Chlorothiazide 250mg tablets	82102998	02.02.01.00

Acetazolamide 250mg/5ml oral solution	81134979	02.02.07.00
Co-tenidone 50mg/12.5mg tablets	96895990	02.04.00.00
Furosemide 40mg/5ml oral solution sugar free	93468990	02.02.02.00
Toraseamide 5mg tablets	95143990	02.02.02.00
CLOREXOLONE 10 MG TAB	93690992	02.02.01.00
CHLOROTHIAZIDE/SPIRONOLACTONE SACHETS 100 MG	94003992	02.02.04.00
BENDROFLUMETHIAZIDE + NADOLOL tabs 5mg + 80mg	95012997	02.04.00.00
HYDROCHLOROTHIAZIDE /METOPROLOL TARTRATE 25 MG TAB	95120992	02.04.00.00
TRIAMTERENE + CHLORTALIDONE tabs 50mg + 25mg	95123997	02.02.04.00
CHLOROTHIAZIDE / SPIRONOLACTONE / GLUCOS 60 MG POW	94823992	02.02.04.00
HYDROFLUMETHIAZIDE + SPIRONOLACTONE tabs 25mg+25mg	96202998	02.02.04.00
RESERPINE/BENDROFLUAZIDE 150 MCG TAB	94541992	02.05.02.00
Spirolactone 10mg/5ml oral solution	64747979	02.02.03.00
Spirolactone 5mg/5ml oral solution	64741979	02.02.03.00
Furosemide 50mg/5ml oral suspension	69171979	02.02.02.00
Spirolactone 5mg/5ml / Chlorothiazide 50mg/5ml oral suspension	68037979	02.02.04.00
Furosemide 500mg tablets	98679989	02.02.02.00
HYDROCHLOROTHIAZIDE + METOPROLOL TARTRATE mr tab 25mg + 200mg	94633998	02.04.00.00
RESERPINE + HYDROCHLOROTHIAZIDE tabs	95324998	02.05.02.00
Furosemide 40mg tablets	96941990	02.02.02.00

### B-Blockers Description, Multilex Code, and BNF Code

Description	Multilex Code	BNF Code
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Atenolol 50mg tablets	96940997	02.04.00.00
Atenolol 25mg tablets	94929997	02.04.00.00
Atenolol 100mg tablets	96940998	02.04.00.00
Bisoprolol 5mg tablets	94783998	02.04.00.00
Bisoprolol 2.5mg tablets	89659998	02.04.00.00
Propranolol 40mg tablets	97123997	02.04.00.00
Bisoprolol 10mg tablets	94783997	02.04.00.00
Propranolol 10mg tablets	97123998	02.04.00.00
Propranolol 80mg modified-release capsules	95378998	02.04.00.00
Metoprolol 50mg tablets	95826998	02.04.00.00
Bisoprolol 1.25mg tablets	94783996	02.04.00.00
PROPRANOLOL 80mg m/r capsules	98702998	02.04.00.00
Sotalol 40mg tablets	95270998	02.04.00.00
CO-TENIDONE 100/25mg tablets	98301998	02.04.00.00
Sotalol 80mg tablets	95270997	02.04.00.00
Co-tenidone 50mg/12.5mg tablets	93219998	02.04.00.00
Nebivolol 5mg tablets	90919998	02.04.00.00
Propranolol 160mg modified-release capsules	95378997	02.04.00.00
Co-tenidone 100mg/25mg tablets	93219997	02.04.00.00
ATENOLOL 50mg tablets	98300998	02.04.00.00
ATENOLOL 100mg tablets	99067998	02.04.00.00
CO-TENIDONE 50/12.5mg tablets	99068998	02.04.00.00
PROPRANOLOL 160mg m/r capsules	99536998	02.04.00.00
Metoprolol 100mg tablets	95826997	02.04.00.00
Propranolol 80mg tablets	97123996	02.04.00.00
ATENOLOL + CHLORTALIDONE tabs 100mg+25mg	95021997	02.04.00.00
Bisoprolol 7.5mg tablets	89659996	02.04.00.00
ATENOLOL + CHLORTALIDONE tabs 50mg+12.5mg	95021998	02.04.00.00
Celiprolol 200mg tablets	94672998	02.04.00.00
Bisoprolol 3.75mg tablets	89659997	02.04.00.00
Carvedilol 3.125mg tablets	93692996	02.04.00.00
Carvedilol 12.5mg tablets	93692998	02.04.00.00
Carvedilol 6.25mg tablets	89397998	02.04.00.00
Carvedilol 25mg tablets	93692997	02.04.00.00
OXPRENOLOL 160mg m/r tablets	99132998	02.04.00.00
ATENOLOL+NIFEDIP 50/20mg m/r	94726998	02.04.00.00
Labetalol 100mg tablets	96032998	02.04.00.00
PROPRANOLOL 40mg tablets	98381997	02.04.00.00

Timolol 10mg tablets	94573998	02.04.00.00
Labetalol 200mg tablets	96032997	02.04.00.00
CO-PRENOZIDE 160/0.25mg tabs	99031998	02.04.00.00
CELIPROLOL 200mg tablets	94637998	02.04.00.00
BISOPROLOL FUMARATE 10mg tabs	94808997	02.04.00.00
PROPRANOLOL 10mg tablets	98381998	02.04.00.00
ATENOL+CO-AMILOZ 50/2.5/25mg	97949998	02.04.00.00
ATENOLOL+NIFEDIP 50/20mg m/r	94732998	02.04.00.00
ATENOLOL 25mg tablets	93608998	02.04.00.00
BISOPROLOL FUMARATE 5mg tabs	94808998	02.04.00.00
METOPROLOL 50mg tablets	99892998	02.04.00.00
Oxprenolol 160mg modified-release tablets	95662998	02.04.00.00
Oxprenolol 40mg tablets	97125997	02.04.00.00
ATENOLOL 50mg tablets	93561998	02.04.00.00
Atenolol 50mg / Nifedipine 20mg modified-release capsules	94669998	02.04.00.00
Atenolol 25mg/5ml oral solution sugar free	94929998	02.04.00.00
Celiprolol 400mg tablets	94672997	02.04.00.00
BISOPROLOL FUMARATE 10mg tabs	94804998	02.04.00.00
Oxprenolol 80mg tablets	97125996	02.04.00.00
TIMOLOL+CO-AMILOZ 10/2.5/25mg	98398998	02.04.00.00
Metoprolol 200mg modified-release tablets	95825998	02.04.00.00
OXPRENOLOL 40mg tablets	98285997	02.04.00.00
BISOPROLOL FUMARATE 5mg tabs	94802998	02.04.00.00
Acebutolol 200mg capsules	96992997	02.04.00.00
TIMOLOL+BENDROFL 10/2.5mg tabs	98816998	02.04.00.00
Sotalol 160mg tablets	95270996	02.04.00.00
Propranolol 160mg tablets	97122998	02.04.00.00
SOTALOL 80mg tablets	99119998	02.04.00.00
Labetalol 400mg tablets	94813997	02.04.00.00
OXPRENOLOL 80mg tablets	98285996	02.04.00.00
METOPROLOL 100mg tablets	99892997	02.04.00.00
METOPROLOL 200mg m/r tablets	98603998	02.04.00.00
Acebutolol 100mg capsules	96992998	02.04.00.00
PINDOLOL+CLOPAMIDE 10/5mg tabs	98963998	02.04.00.00
PROPRANOLOL 80mg tablets	98381996	02.04.00.00
LABETALOL 100mg tablets	98286997	02.04.00.00
ATENOLOL 25mg tablets	93561996	02.04.00.00
ATENOLOL 100mg tablets	93561997	02.04.00.00

Acebutolol 400mg tablets	96992996	02.04.00.00
ATENOLOL 50mg tablets	94679998	02.04.00.00
Pindolol 5mg tablets	95515998	02.04.00.00
Oxprenolol 20mg tablets	97125998	02.04.00.00
PROPRANOL+BENDR 160/5mg m/r	98446998	02.04.00.00
METOPROLOL+HYDROCHL 100/12.5m	99819998	02.04.00.00
NEBIVOLOL 5mg tablets	90918998	02.04.00.00
LABETALOL 200mg tablets	98286996	02.04.00.00
BISOPROLOL FUMARATE 2.5mg tabs	89658997	02.04.00.00
ACEBUTOLOL 200mg capsules	98851997	02.04.00.00
SOTALOL + HYDROCHLOROTHIAZIDE tabs 160mg + 25mg	95267997	02.04.00.00
Nebivolol 2.5mg tablets	82687998	02.04.00.00
METOPROLOL 100mg tablets	99460997	02.04.00.00
Nadolol 80mg tablets	95766997	02.04.00.00
PROPRANOL+BENDR 80/2.5mg caps	98447998	02.04.00.00
ACEBUTOLOL 100mg capsules	98851998	02.04.00.00
ATENOLOL 100mg tablets	94679997	02.04.00.00
ACEBU+HYDROCH 200/12.5mg tabs	99151998	02.04.00.00
Labetalol 50mg tablets	94813998	02.04.00.00
METOPROLOL 50mg tablets	99460998	02.04.00.00
SOTALOL 40mg tablets	98297998	02.04.00.00
ACEBUTOLOL 400mg tablets	98851996	02.04.00.00
CELIPROLOL 400mg tablets	94637997	02.04.00.00
SOTALOL 160mg tablets	99119997	02.04.00.00
SOTAL+HYDROCHLOR 160/25mg tab	99118998	02.04.00.00
NIFEDIPINE + ATENOLOL caps 20mg + 50mg	94668998	02.04.00.00
Atenolol 50mg tablets	98591989	02.04.00.00
OXPRENOLOL 20mg tablets	98285998	02.04.00.00
CO-TENIDONE 100/25mg tablets	96070997	02.04.00.00
OXPRENOLOL + CYCLOPENTHIAZIDE mr tab 160mg+0.25mg	93210998	02.04.00.00
Co-prenozide 160mg/0.25mg modified- release tablets	93209998	02.04.00.00
NADOLOL 80mg tablets	98368997	02.04.00.00
SOTALOL 80mg tablets	98297997	02.04.00.00
Atenolol 25mg / Bendroflumethiazide 1.25mg capsules	89290998	02.04.00.00
OXPRENOLOL tabs 160mg	97124998	02.04.00.00

BISOPROLOL FUMARAT 1.25mg tabs	89658998	02.04.00.00
Nadolol 40mg tablets	95766998	02.04.00.00
LABETALOL 400mg tablets	98894998	02.04.00.00
BISOPROLOL FUMARATE 5mg tabs	89656998	02.04.00.00
TIMOLOL 10mg tablets	98404998	02.04.00.00
Atenolol 25mg tablets	98798988	02.04.00.00
ATENOLOL + AMILORIDE & HYDROCHLOROTHIAZIDE caps	94670998	02.04.00.00
NADOLOL 40mg tablets	98368998	02.04.00.00
Pindolol 10mg / Clopamide 5mg tablets	95514998	02.04.00.00
Timolol 10mg / Bendroflumethiazide 2.5mg tablets	95161998	02.04.00.00
OXPRENOLOL 160mg tablets	98284998	02.04.00.00
TIMOLOL 10mg tablets	99891998	02.04.00.00
PROPRANOLOL 40mg tablets	98299997	02.04.00.00
Atenolol 100mg tablets	99169989	02.04.00.00
CO-TENIDONE 50/12.5mg tablets	96070998	02.04.00.00
ATENOLOL 50mg tablets	93562998	02.04.00.00
Propranolol 10mg/5ml oral solution sugar free	97122996	02.04.00.00
Propranolol 80mg / Bendroflumethiazide 2.5mg capsules	94422998	02.04.00.00
METOPROL+CHLORTHAL 100/12.5mg	99459998	02.04.00.00
Atenolol 50mg tablets	98799990	02.04.00.00
PROPRANOLOL 80mg m/r capsules	93746998	02.04.00.00
HYDROCHLOROTHIAZIDE + TIMOLOL & AMILORIDE tabs 25mg + 10mg + 2.5mg	94549998	02.04.00.00
PROPRANOLOL oral soln 5mg/5ml	97122997	02.04.00.00
TIMOLOL 10MG/BENDROFLUAZIDE 2.5MG TAB	96782992	02.04.00.00
Atenolol 50mg tablets	99278990	02.04.00.00
ATENOLOL 25mg/5mL syrup	99067997	02.04.00.00
Metoprolol 100mg / Hydrochlorothiazide 12.5mg tablets	94634997	02.04.00.00
PROPRANOLOL oral soln 50mg/5ml	92827997	02.04.00.00
PINDOLOL 5mg tablets	98961998	02.04.00.00
ATENOLOL+BENDRO 25/1.25mg cap	89288998	02.04.00.00
Atenolol 25mg tablets	97558990	02.04.00.00
NADOLOL+BENDROFLU 40/5mg tabs	99808998	02.04.00.00
Atenolol 100mg tablets	98591990	02.04.00.00
ATENOLOL 25mg tablets	94679996	02.04.00.00

PROPRANOLOL 160mg tablets	98380998	02.04.00.00
Pindolol 15mg tablets	95515997	02.04.00.00
NADOLOL+BENDROFLU 80/5mg tabs	98367998	02.04.00.00
PROPRANOLOL 10mg tablets	98299998	02.04.00.00
METOPROLOL+HYDROCH 200/25mg m/r	98600998	02.04.00.00
PROPRANOLOL 40mg tablets	95995997	02.04.00.00
Metoprolol 50mg tablets	99501990	02.04.00.00
LABETALOL 50mg tablets	98286998	02.04.00.00
CARVEDILOL 25mg tablets	93691997	02.04.00.00
BISOPROLOL FUMARATE 10mg tabs	89656996	02.04.00.00
CELIPROLOL 200mg tablets	85789998	02.04.00.00
Sotalol 200mg tablets	95269998	02.04.00.00
PROPRANOLOL 10mg tablets	95995998	02.04.00.00
METOPROLOL 200mg m/r tablets	99461998	02.04.00.00
Propranolol 160mg modified-release / Bendroflumethiazide 5mg capsules	94422997	02.04.00.00
CARVEDILOL 12.5mg tablets	93691998	02.04.00.00
Atenolol 25mg tablets	99278988	02.04.00.00
Atenolol 100mg tablets	99278989	02.04.00.00
PROPRANOLOL 80mg m/r capsules	88896998	02.04.00.00
METOPROLOL 200mg m/r tablets	97680992	02.04.00.00
ATENOLOL 25mg tablets	93562996	02.04.00.00
ATENOLOL 100mg tablets	93562997	02.04.00.00
Propranolol 80mg modified-release capsules	98451989	02.04.00.00
Propranolol 40mg/5ml oral solution sugar free	92827998	02.04.00.00
BISOPROLOL FUMARATE 7.5mg tabs	89656997	02.04.00.00
CARVEDILOL 6.25mg tablets	89396998	02.04.00.00
Propranolol 10mg tablets	98676990	02.04.00.00
BISOPROLOL FUMARAT 3.75mg tabs	89658996	02.04.00.00
SOTALOL 200mg tablets	98297996	02.04.00.00
TIMOLOL+BENDROFL 10/2.5mg tabs	87288998	02.04.00.00
Metoprolol 50mg/5ml oral suspension	95140998	02.04.00.00
PROPRANOLOL 80mg tablets	98299996	02.04.00.00
Bisoprolol 5mg tablets	96349990	02.04.00.00
Atenolol 50mg tablets	99169990	02.04.00.00
OXPRENOLOL 80mg tablets	85959998	02.04.00.00
CARVEDILOL 3.125mg tablets	93691996	02.04.00.00
OXPRENOLOL 40mg tablets	85960998	02.04.00.00
PROPRANOLOL 160mg m/r capsules	96025997	02.04.00.00

CHLORTALIDONE + ATENOLOL tabs 12.5mg+50mg	96683998	02.04.00.00
PROPRANOLOL 80mg tablets	95995996	02.04.00.00
CELIPROLOL 400mg tablets	85788998	02.04.00.00
Sotalol 40mg tablets	97136990	02.04.00.00
Metoprolol 50mg tablets	97801990	02.04.00.00
Atenolol 50mg tablets	88077997	02.04.00.00
SOTAL+HYDROCHLO 80/12.5mg tab	95264998	02.04.00.00
Sotalol 80mg tablets	97856990	02.04.00.00
PROPRANOLOL 160mg m/r capsules	91478998	02.04.00.00
BISOPROLOL+HYDROCHLOROTH tabs	92890998	02.04.00.00
Atenolol 50mg tablets	96924989	02.04.00.00
Atenolol 25mg tablets	98591988	02.04.00.00
METOPROLOL TARTRATE + CHLORTALIDONE tabs	94635998	02.04.00.00
TIMOLOL+BENDROFL 20/5mg tabs	95159998	02.04.00.00
PROPRANOLOL 160mg m/r capsules	97861998	02.04.00.00
Co-tenidone 50mg/12.5mg tablets	98344990	02.04.00.00
Co-tenidone 100mg/25mg tablets	98636989	02.04.00.00
TIMOLOL 10mg tablets	87290998	02.04.00.00
Metoprolol 50mg tablets	98482990	02.04.00.00
CHLORTALIDONE + ATENOLOL tabs 25mg+100mg	96683997	02.04.00.00
BENDROFLUMETHIAZIDE + TIMOLOL MALEATE tabs 2.5mg + 10mg	95011998	02.04.00.00
Metoprolol 50mg tablets	97740990	02.04.00.00
Metoprolol 50mg tablets	96849990	02.04.00.00
Atenolol 50mg tablets	98143990	02.04.00.00
PROPRANOLOL 20 MG TAB	93771992	02.04.00.00
Atenolol 25mg tablets	99169988	02.04.00.00
Acebutolol 200mg / Hydrochlorothiazide 12.5mg tablets	96990998	02.04.00.00
Propranolol 40mg tablets	99419989	02.04.00.00
SOTALOL HCl S/R 80 MG TAB	95602992	02.04.00.00
Bisoprolol 10mg tablets	96348989	02.04.00.00
Bisoprolol 10mg tablets	96349989	02.04.00.00
BETAXOLOL HCL 20mg tablets	95956998	02.04.00.00
Atenolol 25mg tablets	88077998	02.04.00.00
Bisoprolol 10mg / Hydrochlorothiazide 6.25mg tablets	92889998	02.04.00.00
Propranolol 40mg tablets	98676989	02.04.00.00

ATENOLOL/CHLORTHALIDONE 50 MG TAB	94682992	02.04.00.00
Nadolol 40mg / Bendroflumethiazide 5mg tablets	95765998	02.04.00.00
Bisoprolol 2.5mg/5ml oral suspension	81997998	02.04.00.00
Bisoprolol 5mg tablets	96348990	02.04.00.00
BISOPROLOL FUMARATE 2.5mg tabs	86098998	02.04.00.00
Propranolol 10mg tablets	99419990	02.04.00.00
Metoprolol 100mg tablets	99501989	02.04.00.00
OXPRENOLOL 20mg tablets	85961998	02.04.00.00
Propranolol 80mg modified-release capsules	95855990	02.04.00.00
Atenolol 50mg tablets	98798990	02.04.00.00
Propranolol 80mg modified-release capsules	97105989	02.04.00.00
PROPRANOLOL 80mg m/r capsules	98041998	02.04.00.00
Co-tenidone 50mg/12.5mg tablets	98636990	02.04.00.00
Metoprolol 200mg modified-release / Hydrochlorothiazide 25mg tablets	94634998	02.04.00.00
PINDOLOL 5mg tablets	91884998	02.04.00.00
Labetalol 100mg tablets	99538990	02.04.00.00
Betaxolol 20mg tablets	95957998	02.04.00.00
PINDOLOL 15mg tablets	98961997	02.04.00.00
AMILORIDE HCl + ATENOLOL & HYDROCHLOROTHIAZIDE caps	94545998	02.04.00.00
Sotalol 25mg/5ml oral suspension	85780998	02.04.00.00
Atenolol 100mg tablets	98798989	02.04.00.00
Atenolol 25mg tablets	96924990	02.04.00.00
Carvedilol 3.125mg tablets	94986990	02.04.00.00
SOTALOL + HYDROCHLOROTHIAZIDE tabs 80mg + 12.5mg	95267998	02.04.00.00
Propranolol 160mg modified-release capsules	98451988	02.04.00.00
METOPROLOL 50mg tablets	96093992	02.04.00.00
Metoprolol 100mg tablets	98482989	02.04.00.00
Co-tenidone 100mg/25mg tablets	98344989	02.04.00.00
Atenolol 25mg tablets	97786990	02.04.00.00
PROPRANOLOL oral soln 80mg/5ml	92827996	02.04.00.00
Atenolol 50mg tablets	97786989	02.04.00.00
Propranolol 160mg modified-release capsules	99322989	02.04.00.00
PENBUTOL+FRUSEM 40/20mg tabs	98775998	02.04.00.00

TIMOLOL MALEATE + BENDROFLUMETHIAZIDE tabs 20mg + 5mg	95161997	02.04.00.00
Atenolol 100mg tablets	98143989	02.04.00.00
Propranolol 160mg modified-release capsules	97943990	02.04.00.00
Atenolol 100mg tablets	96924988	02.04.00.00
BISOPROLOL FUMARAT 1.25mg tabs	92810990	02.04.00.00
METOPROLOL 50mg tablets	96043998	02.04.00.00
Sotalol 40mg tablets	95651990	02.04.00.00
Propranolol 10mg tablets	99417990	02.04.00.00
Atenolol 25mg tablets	97968990	02.04.00.00
Sotalol 80mg tablets	97136989	02.04.00.00
Metoprolol 100mg tablets	97740989	02.04.00.00
Labetalol 200mg tablets	99538989	02.04.00.00
Propranolol 80mg modified-release capsules	97943989	02.04.00.00
Atenolol 50mg tablets	97137989	02.04.00.00
CO-TENIDONE 100/25mg tablets	97710997	02.04.00.00
METOPROLOL 100mg tablets	96828992	02.04.00.00
BISOPROLOL FUMARAT 1.25mg tabs	86099998	02.04.00.00
Sotalol 80mg tablets	96714990	02.04.00.00
Co-tenidone 50mg/12.5mg tablets	98181989	02.04.00.00
Bisoprolol 10mg tablets	96346989	02.04.00.00
Metoprolol 100mg tablets	96849989	02.04.00.00
Atenolol 100mg tablets	97968988	02.04.00.00
Atenolol 50mg tablets	99277990	02.04.00.00
Celiprolol 400mg tablets	96711989	02.04.00.00
TIMOLOL MALEATE + AMILORIDE & HYDROCHLOROTHIAZIDE tabs	94551998	02.04.00.00
Carvedilol 12.5mg tablets	94989990	02.04.00.00
Nadolol 80mg / Bendroflumethiazide 5mg tablets	95765997	02.04.00.00
Propranolol 160mg modified-release capsules	97105990	02.04.00.00
BENDROFLUMETHIAZIDE + PROPRANOLOL caps 2.5mg + 80mg	95014998	02.04.00.00
METOPROLOL 100mg tablets	96043997	02.04.00.00
PROPRANOLOL 160mg m/r capsules	87881998	02.04.00.00
OXPRENOLOL 160mg m/r tablets	92926998	02.04.00.00
Bisoprolol 5mg tablets	96243990	02.04.00.00
Propranolol 40mg tablets	96238989	02.04.00.00
Metoprolol 50mg tablets	98650990	02.04.00.00

BENDROFLUMETHIAZIDE + NADOLOL tabs 5mg + 40mg	95012998	02.04.00.00
Bisoprolol 5mg/5ml oral suspension	86051998	02.04.00.00
BISOPROLOL FUMARATE 5mg tabs	88161998	02.04.00.00
Bisoprolol 5mg tablets	96337990	02.04.00.00
Oxprenolol 160mg modified-release tablets	99707989	02.04.00.00
Propranolol 160mg modified-release capsules	95265990	02.04.00.00
Co-tenidone 50mg/12.5mg tablets	97769990	02.04.00.00
Celiprolol 200mg tablets	96065990	02.04.00.00
Sotalol 40mg tablets	96101990	02.04.00.00
Sotalol 80mg tablets	97222990	02.04.00.00
Bisoprolol 5mg tablets	96346990	02.04.00.00
PROPRANOLOL 160mg tablets	96025998	02.04.00.00
METOPROLOL 50mg tablets	81243998	02.04.00.00
PINDOLOL 15mg tablets	91887998	02.04.00.00
Labetalol 400mg tablets	99538988	02.04.00.00
PROPRANOLOL 80mg m/r capsules	97691998	02.04.00.00
LABETALOL TAB	93798992	02.04.00.00
Metoprolol 12.5mg capsules	82069998	02.04.00.00
Propranolol 10mg tablets	96004990	02.04.00.00
Propranolol 10mg tablets	96238990	02.04.00.00
Propranolol 40mg tablets	98450990	02.04.00.00
CARTEOLOL HCl tabs 10mg	93905998	02.04.00.00
METOPROLOL 100mg tablets	81242998	02.04.00.00
Propranolol 40mg tablets	99417989	02.04.00.00
HYDROCHLOROTHIAZIDE + ATENOLOL & AMILORIDE caps	94671998	02.04.00.00
FUROSEMIDE + PENBUTOLOL tabs	96473998	02.04.00.00
Metoprolol 50mg tablets	95468990	02.04.00.00
CO-TENIDONE 50/12.5mg tablets	91079998	02.04.00.00
Propranolol 5mg/5ml oral solution sugar free	99817979	02.04.00.00
Metoprolol 100mg tablets	97801989	02.04.00.00
BISOPROLOL FUMARATE 10mg tabs	88160998	02.04.00.00
Labetalol 400mg tablets	95253990	02.04.00.00
BENDROFLUMETHIAZIDE + PROPRANOLOL mr cap 5mg + 160mg	95014997	02.04.00.00
Atenolol 50mg tablets	97968989	02.04.00.00
PROPRANOLOL 10 MG SUS	95514992	02.04.00.00
BISOPROLOL oral susp 1.5mg/5ml	85844998	02.04.00.00

CLOPAMIDE + PINDOLOL tabs 5mg + 10mg	96630998	02.04.00.00
Propranolol 160mg modified-release capsules	93877998	02.04.00.00
SPIRONOLACTONE + PROPRANOLOL tabs	97597998	02.04.00.00
Carvedilol 12.5mg tablets	94984990	02.04.00.00
Atenolol 25mg tablets	97137990	02.04.00.00
BISOPROLOL FUMARATE 10mg tabs	92151998	02.04.00.00
Labetalol 400mg tablets	98361988	02.04.00.00
Atenolol 100mg tablets	88077996	02.04.00.00
Carvedilol 6.25mg tablets	94990990	02.04.00.00
Propranolol 80mg modified-release capsules	97983990	02.04.00.00
Co-tenidone 100mg/25mg tablets	98181990	02.04.00.00
PROPRANOLOL 80mg m/r capsules	88890998	02.04.00.00
Celiprolol 400mg tablets	96735989	02.04.00.00
Labetalol 100mg tablets	96856990	02.04.00.00
PROPRANOLOL 160mg tablets	98298998	02.04.00.00
Bisoprolol 5mg tablets	96002990	02.04.00.00
HYDROCHLOROTHIAZIDE + METOPROLOL TARTRATE tabs 12.5mg + 100mg	94633997	02.04.00.00
METOPROLOL FUMARATE 190 MG TAB	96332992	02.04.00.00
Carvedilol 5mg/5ml oral suspension	81052998	02.04.00.00
LABETALOL 100mg/20mL injection	99033998	02.04.00.00
CO-TENIDONE 100/25mg tablets	91079997	02.04.00.00
Propranolol 80mg tablets	98451990	02.04.00.00
Sotalol 160mg tablets	97222989	02.04.00.00
Co-tenidone 100mg/25mg tablets	97769989	02.04.00.00
CO-TENIDONE 50/12.5mg tablets	97710998	02.04.00.00
Acebutolol 200mg capsules	93851990	02.04.00.00
Propranolol 50mg/5ml oral solution sugar free	99816979	02.04.00.00
Bisoprolol 10mg tablets	96337989	02.04.00.00
PROPRANOLOL 80mg m/r capsules	88405998	02.04.00.00
Propranolol 40mg tablets	96003990	02.04.00.00
Atenolol 100mg tablets	97786988	02.04.00.00
Propranolol 80mg tablets	99417988	02.04.00.00
Sotalol 40mg tablets	95505990	02.04.00.00
Propranolol 10mg tablets	93886990	02.04.00.00
PROPRANOLOL 10mg tablets	97590998	02.04.00.00

CO-TENIDONE 50/12.5mg tablets	93345992	02.04.00.00
Propranolol 160mg tablets	99419988	02.04.00.00
METOPROLOL FUMARATE 95 MG TAB	96710992	02.04.00.00
Celiprolol 400mg tablets	96719989	02.04.00.00
Bisoprolol 10mg tablets	96276989	02.04.00.00
PROPRANOLOL 160mg m/r capsules	91837998	02.04.00.00
Oxprenolol 40mg tablets	99712989	02.04.00.00
Carvedilol 6.25mg tablets	94985990	02.04.00.00
Carvedilol 3.125mg tablets	94991990	02.04.00.00
ATENOLOL 50mg tablets	93563998	02.04.00.00
PROPRANOLOL 160mg m/r capsules	88388998	02.04.00.00
Co-tenidone 100mg/25mg tablets	96895989	02.04.00.00
Bisoprolol 2.5mg tablets	93342990	02.04.00.00
PROPRANOLOL 160mg m/r capsules	94493998	02.04.00.00
PROPRANOLOL POWDERS 5 MG POW	94320992	02.04.00.00
Labetalol 200mg tablets	99539989	02.04.00.00
CO-TENIDONE 100/25mg tablets	93344992	02.04.00.00
METOPROLOL FUMARATE 95mg tabs	94497998	02.04.00.00
OXPRENOLOL 10 MG TAB	94258992	02.04.00.00
CARTEOLOL 10mg tablets	93937998	02.04.00.00
Acebutolol 400mg tablets	93850990	02.04.00.00
BISOPROLOL FUMARATE 2.5mg tabs	58692979	02.04.00.00
PROPRANOLOL 160mg m/r capsules	88521998	02.04.00.00
Labetalol 100mg tablets	97745990	02.04.00.00
Labetalol 100mg tablets	99539990	02.04.00.00
Propranolol 80mg modified-release capsules	94682990	02.04.00.00
METOPROLOL TARTRATE oral susp 12.5mg/5ml	80949998	02.04.00.00
Propranolol 80mg modified-release capsules	81718998	02.04.00.00
Metoprolol 12.5mg/5ml oral suspension	79472979	02.04.00.00
PROPRANOLOL 80mg m/r capsules	81022998	02.04.00.00
LABETALOL 100mg tablets	97350998	02.04.00.00
LABETALOL 200mg tablets	97350997	02.04.00.00
PROPRANOLOL 10mg tablets	97104998	02.04.00.00
Labetalol 200mg tablets	97745989	02.04.00.00
PROPRANOLOL 40mg tablets	97590997	02.04.00.00
OXPRENOLOL 80mg tablets	97588996	02.04.00.00

Carvedilol 3.125mg tablets	94967990	02.04.00.00
Propranolol 80mg modified-release capsules	99088988	02.04.00.00
BISOPROLOL FUMARAT 1.25mg tabs	58693979	02.04.00.00
Propranolol 160mg modified-release capsules	81067998	02.04.00.00
Propranolol 160mg modified-release capsules	94681990	02.04.00.00
Bisoprolol 1.25mg tablets	93149990	02.04.00.00
PROPRANOLOL 80mg m/r capsules	93625992	02.04.00.00
Bisoprolol 1.25mg tablets	91779990	02.04.00.00
Nebivolol 2.5mg tablets	92343990	02.04.00.00
Bisoprolol 1.25mg tablets	92013990	02.04.00.00
PROPRANOLOL 160mg m/r capsules	91766998	02.04.00.00
HYDROCHLOROTHIAZIDE /METOPROLOL TARTRATE 25 MG TAB	95120992	02.04.00.00
Carvedilol 3.125mg tablets	94931990	02.04.00.00
BENDROFLUMETHIAZIDE + NADOLOL tabs 5mg + 80mg	95012997	02.04.00.00
AMILORIDE HCl + TIMOLOL & HYDROCHLOROTHIAZIDE tabs	94550998	02.04.00.00
PROPRANOLOL 30 MG SUS	94321992	02.04.00.00
PROPRANOLOL paed 4 MG TAB	94319992	02.04.00.00
Propranolol 80mg tablets	96238988	02.04.00.00
SOTALOL 40mg/4mL injection	95265998	02.04.00.00
Co-tenidone 50mg/12.5mg tablets	96895990	02.04.00.00
Celiprolol 200mg tablets	96735990	02.04.00.00
OXPRENOLOL 160mg m/r tablets	97098998	02.04.00.00
LABETALOL 400mg tablets	97350996	02.04.00.00
Sotalol 80mg tablets	97157990	02.04.00.00
Propranolol 40mg tablets	99090990	02.04.00.00
Bisoprolol 1.25mg tablets	93306990	02.04.00.00
PROPRANOLOL 160mg m/r capsules	81716998	02.04.00.00
	85507998	23.00.00.00
HYDROCHLOROTHIAZIDE + METOPROLOL TARTRATE mr tab 25mg + 200mg	94633998	02.04.00.00
Propranolol 10mg tablets	91554998	02.04.00.00
PROPRANOL HCL 5mg/5mL s/f soln	91326998	02.04.00.00
PROPRAN HCL 10mg/5mL s/f soln	91326997	02.04.00.00
PROPRAN HCL 50mg/5mL s/f soln	91326996	02.04.00.00
PROPRAN HCL 40mg/5mL s/f soln	83081998	02.04.00.00

PROPRANOLOL 15 MG SYR	95516992	02.04.00.00
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### Antiplatelet Medication Description, Multilex Code, and BNF Code

Description	Multilex Code	BNF Code
ALOXIPRIN tabs 600mg	96955998	04.07.01.00
ALOXIPRIN tabs 600mg	99292998	04.07.01.00
ANAGRELIDE 500mcg capsules	87014998	09.01.04.00
Anagrelide 500microgram capsules	87015998	09.01.04.00
CLOPIDOGREL 300mg tablets	83921998	02.09.00.00
CLOPIDOGREL 75mg tablets	82684998	02.09.00.00
CLOPIDOGREL 75mg tablets	89393998	02.09.00.00
Clopidogrel 1mg/ml oral suspension	81504998	02.09.00.00
Clopidogrel 300mg tablets	83922998	02.09.00.00
Clopidogrel 75mg tablets	89385998	02.09.00.00
Clopidogrel 75mg tablets	92249990	02.09.00.00
Clopidogrel 75mg tablets	97615979	02.09.00.00
Clopidogrel 75mg/5ml oral suspension	81139998	02.09.00.00
DIPYRID+ASP 200mg/25mg m/r cap	88498998	02.09.00.00
DIPYRIDAMOLE 100 MG SUS	94142992	02.09.00.00
DIPYRIDAMOLE 100mg tablets	92941998	02.09.00.00
DIPYRIDAMOLE 100mg tablets	94160997	02.09.00.00
DIPYRIDAMOLE 100mg tablets	96183997	02.09.00.00
DIPYRIDAMOLE 100mg tablets	96340992	02.09.00.00
DIPYRIDAMOLE 100mg tablets	99263997	02.09.00.00
DIPYRIDAMOLE 200mg m/r caps	89165998	02.09.00.00
DIPYRIDAMOLE 25mg tablets	92941997	02.09.00.00
DIPYRIDAMOLE 25mg tablets	94160998	02.09.00.00
DIPYRIDAMOLE 25mg tablets	96183998	02.09.00.00
DIPYRIDAMOLE 25mg tablets	99263998	02.09.00.00
DIPYRIDAMOLE oral liq	85499998	02.09.00.00
Dipyridamole 100mg tablets	95615990	02.09.00.00
Dipyridamole 100mg tablets	96344997	02.09.00.00
Dipyridamole 100mg tablets	97763989	02.09.00.00
Dipyridamole 100mg tablets	99225990	02.09.00.00
Dipyridamole 100mg tablets	99228990	02.09.00.00
Dipyridamole 100mg tablets	99618989	02.09.00.00

Dipyridamole 100mg/5ml oral suspension	85500998	02.09.00.00
Dipyridamole 200mg modified-release / Aspirin 25mg capsules	88500998	02.09.00.00
Dipyridamole 200mg modified-release capsules	96344996	02.09.00.00
Dipyridamole 25mg tablets	96344998	02.09.00.00
Dipyridamole 25mg tablets	99226989	02.09.00.00
Dipyridamole 50mg/5ml oral suspension sugar free	88829998	02.09.00.00
PERSANTIN 10 MG SUS	95401992	02.09.00.00
PERSANTIN 100 MG SUS	95400992	02.09.00.00
PRASUGREL 10mg tablets	83026998	02.09.00.00
Prasugrel 10mg tablets	83028998	02.09.00.00
Prasugrel 5mg tablets	83029998	02.09.00.00
TICAGRELOR 90mg tablets	81711998	02.09.00.00
TICLOPIDINE HCL 250mg tablets	97794998	02.09.00.00
Ticagrelor 90mg tablets	81712998	02.09.00.00
Ticlopidine 250mg tablets	89136998	02.09.00.00

### Aspirin Description, Multilex Code, and BNF Code

Description	Multilex Code	BNF Code
Aspirin 75mg dispersible tablets	98776998	02.09.00.00
Aspirin 75mg gastro-resistant tablets	98776997	02.09.00.00
Aspirin 75mg tablets	93575998	02.09.00.00
Aspirin 300mg gastro-resistant tablets	94254998	04.07.01.00
Aspirin 300mg dispersible tablets	98419997	10.01.01.00
Aspirin 300mg tablets	98419998	10.01.01.00
ASPIRIN 75mg e/c tablets	99334996	02.09.00.00
Dipyridamole 200mg modified-release / Aspirin 25mg capsules	88500998	02.09.00.00
ASPIRIN 300mg e/c tablets	99334998	04.07.01.00
ASPIRIN 75mg e/c tablets	89218998	02.09.00.00
Aspirin 75mg dispersible tablets	99808990	02.09.00.00
Aspirin 75mg dispersible tablets	97918990	02.09.00.00
ASPIRIN 300mg e/c tablets	89217998	04.07.01.00

ASPIRIN 75mg disp tabs	91537998	02.09.00.00
ASPIRIN 100mg m/r tablets	96877992	02.09.00.00
ASPIRIN 75mg e/c tablets	91537997	02.09.00.00
ASPIRIN 150 MG TAB	94665992	04.07.01.00
ASPIRIN mr tab 100mg	98776996	02.09.00.00
Aspirin 75mg gastro-resistant tablets	97160990	02.09.00.00
ASPIRIN 100mg eff tabs	94589998	02.09.00.00
ASPIRIN 75mg e/c tablets	90711998	02.09.00.00
Aspirin 75mg gastro-resistant tablets	97537990	02.09.00.00
ASPIRIN 100mg m/r tablets	93099998	02.09.00.00
ASPIRIN + DIPYRIDAMOLE mr cap 25mg + 200mg	88496998	02.09.00.00
ISMN+ASPIRIN 60/75mg m/r tabs	90734998	02.06.01.00
Aspirin 75mg dispersible tablets	98592990	02.09.00.00
Aspirin 75mg / Isosorbide mononitrate 60mg modified-release tablets	90731998	02.06.01.00
Aspirin 75mg dispersible tablets	97241990	02.09.00.00
ASPIRIN 75mg e/c tablets	92015998	02.09.00.00
Aspirin 300mg effervescent tablets sugar free	94709997	02.09.00.00
Aspirin 75mg dispersible tablets	99807990	02.09.00.00
ASPIRIN PAED 81 MG TAB	96110992	04.07.01.00
Aspirin 300mg dispersible tablets	99808989	10.01.01.00
Aspirin 300mg modified-release tablets	94216997	02.09.00.00
ASPIRIN 75mg tablets	93576998	02.09.00.00
ASPRIN E/C 324 MG TAB	96843992	04.07.01.00
Aspirin 75mg gastro-resistant tablets	97241989	02.09.00.00
ASPIRIN 300mg m/r tablets	93099997	02.09.00.00
ASPIRIN SR 100 MG TAB	96878992	02.09.00.00
ASPIRIN SOLUBLE 150 MG TAB	94680992	04.07.01.00
Aspirin 75mg gastro-resistant tablets	99282988	02.09.00.00
ASPIRIN SR 300 MG TAB	96569992	02.09.00.00
ASPIRIN 75mg e/c tablets	89625998	02.09.00.00
ASPIRIN 300mg e/c tablets	94214997	04.07.01.00
ASPIRIN mr cap 162.5mg	83014998	02.09.00.00
ASPIRIN 300mg e/c tablets	92706998	02.09.00.00
Aspirin 75mg dispersible tablets	97677989	02.09.00.00
ASPIRIN disp 150 MG TAB	94670992	04.07.01.00
ASPIRIN caps 162.5mg	94709996	02.09.00.00
ASPIRIN SOLUBLE 100 MG TAB	94669992	02.09.00.00
ASPIRIN 324mg e/c tablets	97088992	04.07.01.00
ASPIRIN eff tabs 300mg	94513997	02.09.00.00

Aspirin 300mg orodispersible tablets sugar free	91841998	10.01.01.00
ASPIRIN SOLUBLE 200 MG TAB	94076992	04.07.01.00
ASPIRIN 300mg disp tabs	93368998	04.07.01.00
Aspirin 75mg dispersible tablets	98513989	02.09.00.00
Aspirin 75mg dispersible tablets	98142990	02.09.00.00
Aspirin 300mg tablets	99808988	10.01.01.00
ASPIRIN 75mg e/c tablets	88820998	02.09.00.00
ASPIRIN eff tabs 100mg	94513998	02.09.00.00
Aspirin 75mg gastro-resistant tablets	97097990	02.09.00.00
Aspirin 150mg / Isosorbide mononitrate 60mg modified-release tablets	90731997	02.06.01.00
ISMN+ASPIRIN 60/150mg m/r tab	90733998	02.06.01.00
Aspirin 75mg gastro-resistant tablets	96390990	02.09.00.00
Aspirin 300mg dispersible tablets	99807989	10.01.01.00
Aspirin 75mg dispersible tablets	99282989	02.09.00.00
Aspirin 300mg gastro-resistant tablets	97935990	04.07.01.00
ASPIRIN SOLUBLE 600 MG TAB	94020992	02.09.00.00
Aspirin 300mg gastro-resistant tablets	97181990	04.07.01.00
Aspirin 300mg dispersible tablets	98592988	10.01.01.00
ASPIRIN mr tab 324mg	94216998	04.07.01.00
Aspirin 75mg dispersible tablets	99810988	02.09.00.00
ASPIRIN 300mg disp tabs	97400998	04.07.01.00
Aspirin 75mg gastro-resistant tablets	97182990	02.09.00.00
Aspirin 300mg tablets	98513990	10.01.01.00
Aspirin 75mg dispersible tablets	97160998	02.09.00.00
Aspirin 75mg dispersible tablets	95352990	02.09.00.00
Aspirin 75mg gastro-resistant tablets	96988989	02.09.00.00
ASPIRIN 75mg e/c tablets	90143998	02.09.00.00
Aspirin 300mg gastro-resistant tablets	97537989	04.07.01.00
Aspirin 75mg dispersible tablets	96201990	02.09.00.00
Aspirin 300mg dispersible tablets	98142989	04.07.01.00
Aspirin 300mg effervescent tablets sugar free	90377998	04.07.01.00
ASPIRIN 300mg disp tabs	95911992	04.07.01.00
Aspirin 300mg dispersible tablets	96414990	10.01.01.00
ASPIRIN 325 MG CAP	94668992	04.07.01.00
Aspirin 300mg dispersible tablets	97918989	10.01.01.00
ASPIRIN + GLYCINE dissolving tab 300mg + 133mg	94215997	10.01.01.00
Aspirin 75mg dispersible tablets	96007990	02.09.00.00
ASPIRIN 325 MG TAB	99876992	04.07.01.00

Aspirin 300mg dispersible tablets	97974989	10.01.01.00
Aspirin 300mg dispersible tablets	96129990	10.01.01.00
Aspirin 300mg dispersible tablets	96566989	10.01.01.00
Aspirin 75mg gastro-resistant tablets	96436990	02.09.00.00
Aspirin 75mg gastro-resistant tablets	94441990	02.09.00.00
Aspirin 300mg dispersible tablets	99283989	10.01.01.00
ASPIRIN disp 200 MG TAB	94412992	04.07.01.00
ASPIRIN 300mg tablets	99824998	04.07.01.00
Aspirin 75mg dispersible tablets	95310990	02.09.00.00
ASPIRIN + GLYCINE chewable tab 300mg + 150mg	94215996	10.01.01.00
Aspirin 300mg tablets	91965979	10.01.01.00
Aspirin 300mg dispersible tablets	95351990	10.01.01.00
Aspirin 300mg dispersible tablets	99810989	04.07.01.00
Aspirin 300mg tablets	99807988	10.01.01.00
Aspirin 75mg gastro-resistant tablets	96444990	02.09.00.00
ASPIRIN M/F 324 MG TAB	94667992	04.07.01.00
ASPIRIN 162.5mg m/r capsules	83013998	02.09.00.00
ASPIRIN 324mg e/c tablets	94214998	04.07.01.00
ASPIRIN 70 MG TAB	96586992	04.07.01.00

## LIST OF JOURNAL ABBREVIATIONS

Acta Cardiol	Acta Cardiologica
Adv Exp Med Biol	Advances in Experimental Medicine and Biology
Am Fam Physician	American Family Physician
Am Heart J	American Heart Journal
Am J Cardiol	American Journal of Cardiology
Am J Epidemiol	American Journal of Epidemiology
Am J Med	American Journal of Medicine
Ann Epidemiol	Annals of Epidemiology
Ann Intern Med	Annals of Internal Medicine
Ann Rheum Dis	Annual of Rheumatic Disease
Arch Intern Med	Archives of Internal Medicine
Arthritis Res Ther	Arthritis Research & Therapy
Arthritis Care Res	Arthritis Care & Research
Arthritis Rheum	Arthritis & Rheumatology
Asia Pac J Clin Nutr	Asia Pacific Journal of Clinical Nutrition
BMJ	British Medical Journal
Br J Rheumatol	British Journal of Rheumatology
Bull Hist Med	Bulletin of the History of Medicine
Bull NYU Hosp Jt Dis	Bulletin of the NYU Hospital for Joint Disease
Clin Chem	Clinical Chemistry

Curr Opin Rheumatol	Current Option in Rheumatology
Curr Opin Cell Biol	Current Opinion in Cell Biology
Eur J Cardiovasc Prev Rehab Rhsbilitation	European Journal of Cardiovascular Prevention & Rhsbilitation
Inform Prim Care	Informatics in Primary Care
Intern Med J	Internal Medicine Journal
Int J Cardiol	International Journal of Cardiology
JAMA	The Journal of the American Medical Association
J Rheumatol	Journal of Rheumatology
J Clin Epidemiol	Journal of Clinical Epidemiology
J Clin Rheumatol	Journal of Clinical Rheumatology
J Epidemiol Community Health	Journal of Epidemiology & Community Health
J Korean Med Sci	Journal of Korean Medical Science
Mol Cell Biol	Molecular and Cellular Biology
Med Health R I	Medicine & Health Rhode Island
NEJM	New England Journal of Medicine
Pharmacoepidemiol Drug Saf	Pharmacoepidemiology & Drug Safety
Q J Med	Quarterly Journal of Medicine
Rheum Dis Clin North Am	Rheumatic Disease Clinics of North America
Rheumatol	Rheumatology

## REFERENCES

- 1- Stephany B, Schreiber M. Chapter 13. Tumor Lysis Syndrome. In: Lerma EV, Berns JS, Nissenson AR. eds. CURRENT Diagnosis & Treatment: Nephrology & Hypertension. New York: McGraw-Hill; 2009
- 2- Adams RLP, Knowler JT, Leader DP: The Biochemistry of the Nucleic Acids, 11th ed. Chapman & Hall, 1992
- 3- Janson LW, Tischler ME. eds. The Big Picture: Medical Biochemistry. New York: McGraw-Hill; 2012.
- 4- Burns CM, Wortmann RL. Chapter 359. Disorders of Purine and Pyrimidine Metabolism. In: Longo DL, Fauci AS, Kasper DL, Hauser SL, Jameson J, Loscalzo J. eds. Harrison's Principles of Internal Medicine, 18e. New York: McGraw-Hill; 2012.
- 5- Becker, MA. Uric acid balance. In: UpToDate, Schumacher, HR (Ed), UpToDate, Waltham, MA, 2014.
- 6- Tuhina Neogi,. Gout. NEJM 2011; 364:443-452
- 7- Richette P, Bardin T.Gout. Lancet 2010; 375:318–328
- 8- Antón FM, García Puig J, Ramos T, et al. Sex differences in uric acid metabolism in adults: evidence for a lack of influence of estradiol-17 beta (E2) on the renal handling of urate. Metabolism 1986; 35:343.
- 9- Hak AE, Choi HK. Menopause, postmenopause hormone use and serum uric acid levels in US women – the Third National Health and Nutrition Examination Survey. Arthritis Res Ther. 2008;10(5):R116
- 10- Khanna D, Fitzgerald JD, Khanna PP et al. 2012 American College of Rheumatology guidelines for management of gout. Part 1: systematic nonpharmacologic and pharmacologic therapeutic approaches to hyperuricemia. Arthritis Care Res (Hoboken) 2012; 64, 1431–46.
- 11- Poon SH, Hall HA, Zimmermann B. Approach to the treatment of hyperuricemia. Med Health R I. 2009 Nov;92(11):359-62.
- 12- Becker, MA. Asymptomatic hyperuricemia. In: UpToDate, Schumacher, HR (Ed), UpToDate, Waltham, MA, 2014.

- 13- Mark D. Harris, Wilford Hall: Gout and Hyperuricemia. *Am Fam Physician*. 1999 Feb 15;59(4):925-934.
- 14- Schumacher, Ralph. "Gout." *Gout / American College of Rheumatology / ACR*. American College of Rheumatology, Sept. 2012. Web. 09 Feb. 2014.
- 15- Roddy E, Mallen CD, Doherty M. Gout. *BMJ*2013;347:f5648
- 16- Sachs L, Batra KL, Zimmermann B. Medical implications of hyperuricemia. *Med Health R I*, 2009; 92: 353–355.
- 17- Burns CM, Wortmann RL. Chapter 359. Disorders of Purine and Pyrimidine Metabolism. In: Longo DL, Fauci AS, Kasper DL, Hauser SL, Jameson J, Loscalzo J. eds. *Harrison's Principles of Internal Medicine*, 18e. New York: McGraw-Hill; 2012.
- 18- Puig JG, Martinez MA, et al. Serum urate, metabolic syndrome, and cardiovascular factors. *Nucleosides Nucleotides Nucleic Acids* 2008; 27:620-3.
- 19- Becker, MA. Clinical manifestation and diagnosis of gout. In: UpToDate, Schumacher, HR (Ed), UpToDate, Waltham, MA, 2014.
- 20- Dalbeth N, Kalluru R, Aati O, et al. Tendon involvement in the feet of patients with gout: a dual-energy CT study. *Ann Rheum Dis* 2013; 72:1545.
- 21- Zhu Y, Pandya BJ, Choi HK. Prevalence of gout and hyperuricemia in the US general population: the National Health and Nutrition Examination Survey 2007-2008. *Arthritis Rheum* 2011;63:3136-41.
- 22- Wallace KL, Riedel AA, Joseph-Ridge N, Wortmann R. Increasing prevalence of gout and hyperuricemia over 10 years among older adults in a managed care population. *J Rheumatol* 2004; 31:1582
- 23- Klemp P, Stansfield SA, Castle B, Robertson MC: Gout is on the increase in New Zealand. *Ann Rheum Dis* 1997, 56:22-26.
- 24- Stamp LK, Wells JE, Pitama S, Faatoese A, et al. Hyperuricaemia and gout in New Zealand rural and urban Māori and non-Māori communities. *Intern Med J*. 2013 Jun;43(6):678-84.
- 25- Currie WJ: Prevalence and incidence of the diagnosis of gout in Great Britain. *Ann Rheum Dis* 1979, 38:101-106.
- 26- Harris CM, Lloyd DC, Lewis J: The prevalence and prophylaxis of gout in England. *J Clin Epidemiol* 1995, 48:1153-1158.

- 27- Mikuls TR, Farrar JT, Bilker WB, Fernandes S, Schumacher HR Jr, Saag KG: Gout epidemiology: results from the UK General Practice Research Database, 1990-1999. *Ann Rheum Dis* 2005, 64:267-272.
- 28- Elliot AJ, Cross KW, Fleming DM: Seasonality and trends in the incidence and prevalence of gout in England and Wales 1994-2007. *Ann Rheum Dis* 2009, 68:1728-1733.
- 29- Roddy E, Doherty M. Epidemiology of gout. *Arthritis Res Ther* 2010; 12:223.
- 30- Chang HY, Pan WH, Yeh WT, Tsai KS. Hyperuricemia and gout in Taiwan: results from the National and Health Survey in Taiwan (1993-96). *J Rheumatol* 2001; 28:1640-6.
- 31- Chuang SY, Lee SC, Hsieh YT, Pan WH. Trends in hyperuricemia and gout prevalence: Nutrition and Health Survey in Taiwan from 1993-1996 to 2005-2008. *Asia Pac J Clin Nutr* 2011;20:301-8.
- 32- Choi HK, Curhan G. Gout: epidemiology and lifestyle choices. *Curr Opin Rheumatol.* 2005;17(3):341-345.
- 33- De Souza AWS, Fernandes V, Ferrari AJL. Female gout: clinical and laboratory feature. *J Rheumatol* 2005; 32:2186-8.
- 34- Harrold LR, Yood RA, et al. Sex differences in gout epidemiology. *Ann Rheum Dis* 2006; 65:1368-72.
- 35- Puig JG, Michan AD, et al. Female gout. *Arch Intern Med* 1991; 151:726-32.
- 36- Becker MA, Jolly M. Hyperuricemia and associated diseases. *Rheum Dis Clin North Am* 2006; 32:275.
- 37- Richette P, Clerson P, Périssin L, Flipo RM, Bardin T. Revisiting comorbidities in gout: a cluster analysis. *Ann Rheum Dis.* 2013 Oct 9.
- 38- Pillinger MH, Goldfarb DS, Keenan RT. Gout and its comorbidities. *Bull NYU Hosp Jt Dis* 2010; 68:199-203.
- 39- Choi HK, Ford ES, Li C, Curhan G: Prevalence of metabolic syndrome in patient with gout: the Third National Health and Nutrition Examination Survey. *Arthritis Rheum.* 2007 Feb 15;57(1):109-15.
- 40- Vazquez-Mellado J, Garcia CG, Vazquez SG, Medrano G, Ornelas M, Alcocer L, et al. Metabolic syndrome and ischemic heart disease in gout. *J Clin Rheumatol* 2004; 10: 105–9.

- 41- Rho YH, Choi SJ, Lee YH, Ji JD, Choi KM, Baik SH, et al. The prevalence of metabolic syndrome in patients with gout: a multicenter study. *J Korean Med Sci* 2005; 20: 1029–33.
- 42- Puig JG, Martínez MA. Hyperuricemia, gout and the metabolic syndrome. *Curr Opin Rheumatol.* 2008 Mar;20(2):187-91.
- 43- Choi HK, Atkinson K, Karlson EW, Curhan G: Obesity weight change, hypertension, diuretic use, and risk of gout in men: the health professional follow-up study. *Arch Intern Med* 2005, 165:742-748.
- 44- R. Roubenoff, M.J. Klag, L.A. Mead *et al.* Incidence and risk factors for gout in white men *JAMA*, 266 (1991), pp. 3004–3007.
- 45- T. Ogura, K. Matsuura, Y. Matsumoto *et al.* Recent trends of hyperuricemia and obesity in Japanese male adolescents, 1991 through 2002. *Metabolism*, 53 (2004), pp. 448–453.
- 46- R. Grahame, J.T. Scott. Clinical survey of 354 patients with gout. *Ann Rheum Dis*, 29 (1970), pp. 461–468.
- 47- A. Rapado. Relationship between gout and arterial hypertension. *Adv Exp Med Biol*, 41B (1974), pp. 451–459
- 48- Perlstein TS, Gumieniak O, et al. Uric acid and the development of hypertension. *Hypertension* 2006; 48:1031-6. Epub 2006 Oct 23.
- 49- K.A. Barlow. Hyperlipidemia in primary gout. *Metabolism*, 17 (1968), pp. 289–299.
- 50- J.T. Gibson, R. Grahame. Gout, hypertriglyceridemia, and alcohol consumption. *Ann Rheum Dis*, 33 (1974), pp. 109–110.
- 51- H.K. Naito, A.H. Mackenzie. Secondary hypertriglyceridemia and hyperlipoproteinemia in patients with primary asymptomatic gout. *Clin Chem*, 25 (1979), pp. 371–375.
- 52- S. Jiao, K. Kameda, Y. Matsuzawa *et al.* Hyperlipoproteinemia in primary gout: hyperlipoproteinemic phenotype and influence of alcohol intake and obesity in Japan. *Ann Rheum Dis*, 45 (1986), pp. 308–313.
- 53- S. Takahashi, T. Yamamoto, Y. Moriwaki *et al.* Impaired lipoprotein metabolism in patients with primary gout: influence of alcohol intake and body weight. *Br J Rheumatol*, 33 (1994), pp. 731–734.

- 54- S. Takahashi, T. Yamamoto, Y. Moriwaki *et al.* Increased concentrations of serum Lp(a) lipoprotein in patients with primary gout. *Ann Rheum Dis*, 54 (1995), pp. 90–93.
- 55- F. Cardona, F.J. Tinahones, E. Collantes *et al.* The elevated prevalence of apolipoprotein E2 in patients with gout is associated with reduced renal excretion of urates. *Rheumatol*, 42 (2003), pp. 468–472.
- 56- Choi HK, De Vera MA, Krishnan E: Gout and risk of type 2 diabetes among men with a high cardiovascular risk profile. *Rheumatology* 2008, 47:1567-1570.
- 57- Fam AG. Gout, diet, and the insulin resistance syndrome. *J Rheumatol*. 2002;29:1350–1355
- 58- Mio Z, Li C, Chen Y, Zhao S, et al. Dietary and lifestyle changes associated with high prevalence of hyperuricemia and gout in the Shandong coastal cities of Eastern China. *J Rheumatol* 2008, 35: 1859-1864.
- 59- Choi HK, Atkinson K, Karlson EW, Willett W, Curhan G: Purine-rich foods, dairy and protein intake, and the risk of gout in men. *NEJM* 2004, 350:1093-1103.
- 60- Choi HK, Willett W, Curhan G. Coffee consumption and risk of incident gout in men: a prospective study. *Arthritis Rheum*. 2007;56:2049–2055
- 61- Choi HK, Curhan G. Soft drinks, fructose consumption, and the risk of gout in men: prospective cohort study. *BMJ*. 2008;336:309–312.
- 62- Choi HK, Gao X, Curhan G. Vitamin C intake and the risk of gout in men: a prospective study. *Arch Intern Med*. 2009;169:502–507.
- 63- Roddy E. Hyperuricemia, gout, and lifestyle factors. *J Rheumatol*. 2008;35:1689–1691.
- 64- Ball GV. Two epidemics of gout. *Bull Hist Med*. 1971;45:401–408.
- 65- Choi HK, Atkinson K, Karlson EW, Willett W, Curhan G. Alcohol intake and risk of incident gout in men: a prospective study. *Lancet*. 2004;363:1277–1281.
- 66- Zhang Y, Woods R, Chaisson CE, Neogi T, Niu J, McAlindon TE, Hunter D. Alcohol consumption as a trigger of recurrent gout attacks. *Am J Med*. 2006;119:800–808.
- 67- Zhang Y, Neogi T, Chen C, Chaisson C, Hunter DJ, Choi H. Low-dose aspirin use and recurrent gout attacks. *Ann Rheum Dis*. 2014 Feb 1;73(2):385-90.

- 68- Bhole V, de Vera M, Rahman MM, Krishnan E, Choi H. Epidemiology of gout in women: fifty-two-year followup of a prospective cohort. *Arthritis Rheum.* 2010;62:1069–1076.
- 69- Feig DI, Kang DH, Johnson RJ. Uric acid and cardiovascular risk. *NEJM* 2008; 359:1811-21.
- 70- Feig DI, Kang DH, Johnson RJ. Uric acid and cardiovascular risk. *NEJM* 2008; 359:1811-21
- 71- Kannel W. Metabolic risk factors for coronary heart disease in women. Perspective from the Framingham study. *Am Heart J.* 1987; 114:413-419
- 72- Puddu P, Lanti M, Menotti A, Mancini , Zanchetti A, Cirillo M, Angeletti M, Panarelli W; Gubbio Study Research Group. Serum uric acid for short-term prediction of cardiovascular disease incidence in the Gubbio population Study. *Acta Cardiol.* 2001; 56(4): 243-51.
- 73- Bos MJ, Koudstaal PJ, Hofman A, Witteman JCM, Breteler MMB. Uric acid is a risk factor for myocardial infarction and stroke: The Rotterdam Study. *Stroke.* 2006; 37(6): 1503-1507.
- 74- Eswar Krishnan, Joshua F. Baker, Daniel E. Furst, and H. Rlph Schumacher. Gout and the Risk of Acute Myocardial Infarction. *Arthritis & Rheumatism.* 2006; 54:2688-2696.
- 75- Bruce F. Culleton, Martin G. Larson, William B. Kannel, Daniel Levy. Serum Uric Acid and Risk for Cardiovascular Disease and Death: The Framingham Heart Study. *Ann Intern Med.* 1999; 131: 7-13
- 76- Joseph T. Moriarity, Arron R. Folosm, Carlos Iribarren, F. Javier Nieto, Wayne D. Rosamond. Serum Uric Acid and Risk of Coronary Heart Disease: Atherosclerosis Risk in Communities (ARIC) Study. *Ann Epidemiol* 2000; 10: 136-143
- 77- Freedman DS, Williamson DF, Gunter EW, Byers T (1995) Relation of serum uric acid to mortality and ischemic heart disease. The NHANES I Epidemiological Follow-up Study. *Am J Epidemiol* 141: 637-644.
- 78- Sun Ha Jee, Soon Young Lee, Miyong T. Kim. Serum uric acid and risk of death from cancer, cardiovascular disease or all cause in men. *Eur J Cardiovasc Prevention Rehab* 2004; 11:185-191.
- 79- Jeremy G. Wheeler, Kelsey D. M. Juzwishin, Gudny Eiriksdottir, Vilmundur Gudnason, John Danesh. Serum Uric Acid and Coronary Heart Disease in 9,458

Incident Cases and 155,084 Controls: Prospective Study and Meta-Analysis. *PLoS Medicine* 2005; 2(3): e76.

- 80- Ong G, Davis WA, Davis TM. Serum uric acid does not predict cardiovascular or all-cause mortality in type 2 diabetes: the Fremantle Diabetes Study. *Diabetologia* 2010; 53:1288-1294.
- 81- Panero F, Gruden G, Perotto M, Fornengo P, Barutta F, Greco E, Runzo C, Ghezzo G, Cavallo-Perin P, Cavallo-Perin P, Bruno G. Uric acid is not an independent predictor of cardiovascular mortality in type 2 diabetes: a population-based study. *Atherosclerosis* 2012;221:183-188.
- 82- Skak-Niesen H, Torp-Pedersen C, Finer N, Caterson D, Van Gaal L, et al. (2013) Uric Acid as a Risk Factor for Cardiovascular Disease and Mortality in Overweight/Obese Individuals. *PLoS ONE* 8(3):e59121.
- 83- G. Levantesi, R.M. Marfisi, M.G. Franzosi et al. Uric acid: A cardiovascular risk factor in patients with recent myocardial infarction. *Int J Cardiol* 2013; 167: 262-269.
- 84- Kivity S, Kopel E, Maor E, et al. Association of serum uric acid and cardiovascular disease in healthy adults. *Am J Cardiol* 2013; 111(8):1146-1151.
- 85- A. G. Stack, A. Hanley, L.F. Casserly, et al. Independent and conjoint association of gout and hyperuricaemia with total and cardiovascular mortality. *Q J Med* 2013; 106:647-658.
- 86- Choi HK, Curhan G. Independent impact of gout on mortality and risk for coronary heart disease. *Circulation* 2007; 116: 894–900.
- 87- De Vera MA, Rahman MM, Bhole V, Kopec JA, Choi HK. Independent impact of gout on the risk of acute myocardial infarction among elderly women: a population-based study. *Ann Rheum Dis* 2010; 69: 1162–4.
- 88- Kuo CF, Yu KH, See LC et al. Risk of myocardial infarction among patients with gout: a nationwide population-based study. *Rheumatology* 2013; 52: 111-7.
- 89- Seminog OO, Goldacre MJ. Gout as a risk factor for myocardial infarction and stroke in England: evidence from record linkage studies. *Rheumatology* 2013.
- 90- Jing Fang, Michael H. Alderman. Serum Uric Acid and Cardiovascular Mortality The NHANES I Epidemiologic Follow-up Study, 1971-1992. *JAMA*. 2000;283(18):2404-2410.
- 91- CSD Medical Research UK. THIN Data Guide for Researchers. 2012.

- 92- Chisholm J. The Read clinical classification. *BMJ*. 1990;300: 1092.
- 93- <http://www.fdbhealth.co.uk/solutions/multilex/>
- 94- Black BT, Thompson M, Dattani H, Bourke A. Generalisability of The Health Improvement Network (THIN) database: demographics, chronic disease prevalence and mortality rates. *Inform Prim Care*. 2011; 19:251-5.
- 95- Lewis JD, Schinnar R, Bilker WB, Wang X, Strom BL. Validation studies of The Health Improvement Network (THIN) database for pharmacoepidemiology research. *Pharmacoepidemiol Drug Saf*. 2007; 16:393-401.
- 96- Rothenbacher D, Primates P, Ferreira A, Cea-Soriano L, Rodríguez LA. Frequency and risk factors of gout flares in a large population-based cohort of incident gout. *Rheumatology* 2011;50:973-981.
- 97- Rodríguez G, Soriano LC, Choi HK. Impact of diabetes against the future risk of developing gout. *Ann Rheum Dis*. 2010 Dec;69(12):2090-4.
- 98- Hammad TA, Graham DJ, Staffa JA, Kornegay CJ, Dal Pan GJ. Onset of acute myocardial infarction after use of non-steroidal anti-inflammatory drugs. *Pharmacoepidemiol Drug Saf*. 2008;17(4):315-21.
- 99- Garcia Rodriguez, L.A., Varas-Lorenzo, C., Maguire, A., & Gonzalez-Perez, A. (2004). Nonsteroidal antiinflammatory drugs and the risk of myocardial infarction in the general population. *Circulation*, 109 (24):3000-3006.
- 100- Garcia Rodriguez LA, Cea-Soriano L, Martin-Merino E, Johnson, S. Discontinuation of low dose aspirin and risk of myocardial infarction: case-control study in UK primary care. *BMJ* 2011;343:d4094.
- 101- Hubbard RB. Prevalence of major comorbidities in subjects with COPD and incidence of myocardial infarction and stroke: a comprehensive analysis using data from primary care. *Thorax BMJ* 2010. 65:956-962.
- 102- Haynes K. Risk of myocardial infarction associated with chronic hepatitis C virus infection: a population-based cohort study. *Journal of viral hepatitis* 2012. 19(4):271-7.
- 103- Hardoon SL. Trends in longer-term survival following an acute myocardial infarction and prescribing of evidenced-based medications in primary care in the UK from 1991: a longitudinal population-based study. *J Epidemiol Community Health* 2010. 65(9):770-4.

- 104- Donaldson GC. Increased risk of Myocardial Infarction and Stroke following Exacerbation of Chronic Obstructive Pulmonary Disease. *Chest*.2009. 137(5):1091-7.
- 105- Hammad TA, McAdams MA, Feight A, Iyasu S, Dal Pan GJ. Determining the predictive value of Read/OXMIS codes to identify incident acute myocardial infarction in the General Practice Research Database. *Pharmacoepidemiol Drug Saf*. 2008; 17(12):1197-201.
- 106- (National Institutes of Health (NIH), National Heart, Lung, and Blood Institute (NHLBI). The practical guide: identification, evaluation, and treatment of overweight and obesity in adults. Bethesda: National Institutes of Health. 2000, NIH publication 00-4084).
- 107- Libby P, Ridker PM, Maseri A. Inflammation and atherosclerosis. *Circulation* 2002;105:1135-43.
- 108- Tiong AY, Brieger D. Inflammation and coronary artery disease. *Am Heart J* 2005;150:11-8.
- 109- Inokuchi T1, Tsutsumi Z, Takahashi S, Ka T, Moriwaki Y, Yamamoto T. Increased frequency of metabolic syndrome and its individual metabolic abnormalities in Japanese patients with primary gout. *J Clin Rheumatol*. 2010 Apr;16(3):109-12.
- 110- Kontogianni MD, Panagiotakos DB, Pitsavos C, Chrysohoou C, Stefanadis C. Relationship between meat intake and the development of acute coronary syndromes: the CARDIO2000 case-control study. *Eur J Clin Nutr*. 2008;62:171-177.
- 111- W. Maynard, Janet, A. McAdams, Mara, N. Baer, Alan, C. Gelber, Allan, Coresh, Josef; Racial Differences in Gout Risk and Uric Acid Levels in Both Men and Women in the Atherosclerosis Risk in Communities (ARIC) Study. *Arthritis Rheum* 2010;62 Suppl 10 :1556.
- 112- Go AS, Mozaffarian D, Roger VL, Benjamin EJ, Berry JD, Borden WB, et al. AHA Statistical Update. Heart disease and stroke statistics-2013 update. *Circulation* 2013;127:e6-e245.
- 113- Cassim B, Mody GM, Deenadayalu VK, Hammond MG. Gout in Black South Africans: A clinical and genetic study. *Ann Rheum Dis* 1994;53:759-62

**CURRICULUM VITAE**

