

Supplementary Table S1: Definition of conditions, drugs and events from primary care records using the READ code system

| READ_CD | DESCRIPTION (CARDIOVASCULAR DISEASE) |
|---------|---|
| 14A3. | H/O: myocardial infarct <60 |
| 14A4. | H/O: myocardial infarct >60 |
| 14A5. | H/O: angina pectoris |
| 14A6. | H/O: heart failure |
| 14AH. | H/O: Myocardial infarction in last year |
| 14AJ. | H/O: Angina in last year |
| 14AM. | H/O: Heart failure in last year |
| 14AT. | History of myocardial infarction |
| 14AW. | H/O acute coronary syndrome |
| 14NB. | H/O: Peripheral vascular disease procedure |
| 1J60. | Suspected heart failure |
| 1O1.. | Heart failure confirmed |
| 21264 | Heart failure resolved |
| 323.. | ECG: myocardial infarction |
| 3232 | ECG: old myocardial infarction |
| 323Z. | ECG: myocardial infarct NOS |
| 388D. | New York Heart Assoc classification heart failure symptoms |
| 661M5 | Heart failure self-management plan agreed |
| 662p. | Heart failure 6 month review |
| 662T. | Congestive heart failure monitoring |
| 662W. | Heart failure annual review |
| 679W1 | Education about deteriorating heart failure |
| 679X. | Heart failure education |
| 67D4. | Heart failure information given to patient |
| 792.. | Coronary artery operations |
| 7920 | Saphenous vein graft replacement of coronary artery |
| 7921 | Other autograft replacement of coronary artery |
| 7922 | Allograft replacement of coronary artery |
| 7923 | Prosthetic replacement of coronary artery |
| 7924 | Revision of bypass for coronary artery |
| 79240 | Revision of bypass for one coronary artery |
| 79241 | Revision of bypass for two coronary arteries |
| 79242 | Revision of bypass for three coronary arteries |
| 79243 | Revision of bypass for four or more coronary arteries |
| 7924y | Other specified revision of bypass for coronary artery |
| 7924z | Revision of bypass for coronary artery NOS |
| 7925 | Connection of mammary artery to coronary artery |
| 79275 | Open angioplasty of coronary artery |
| 7928 | Transluminal balloon angioplasty of coronary artery |
| 79280 | Percut transluminal balloon angioplasty one coronary artery |
| 79281 | Percut translum balloon angioplasty mult coronary arteries |
| 79282 | Percut translum balloon angioplasty bypass graft coronary a |

79283 Percut translum cutting balloon angioplasty coronary artery
 7928y Transluminal balloon angioplasty of coronary artery OS
 7928z Transluminal balloon angioplasty of coronary artery NOS
 79290 Percutaneous transluminal laser coronary angioplasty
 79293 Rotary blade coronary angioplasty
 79294 Insertion of coronary artery stent
 79295 Insertion of drug-eluting coronary artery stent
 792D. Other bypass of coronary artery
 792Dy Other specified other bypass of coronary artery
 792Dz Other bypass of coronary artery NOS
 793G. Perc translumin balloon angioplasty stenting coronary artery
 793Gy OS perc translumina balloon angioplast stenting coronary art
 793Gz Perc translum balloon angioplasty stenting coronary art NOS
 889A. Diab mellit insulin-glucose infus acute myocardial infarct
 8CeC. Preferred place of care for next exacerbation heart failure
 8CL3. Heart failure care plan discussed with patient
 8CMK. Has heart failure management plan
 8CMW8 Heart failure clinical pathway
 8H2S. Admit heart failure emergency
 8HBE. Heart failure follow-up
 8HBJ. Stroke / transient ischaemic attack referral
 8L40. Coronary artery bypass graft operation planned
 8L41. Coronary angioplasty planned
 G1yz1 Rheumatic left ventricular failure
 G232. Hypertensive heart&renal dis wth (congestive) heart failure
 G3... Ischaemic heart disease
 G30.. Acute myocardial infarction
 G301. Other specified anterior myocardial infarction
 G301z Anterior myocardial infarction NOS
 G304. Posterior myocardial infarction NOS
 G305. Lateral myocardial infarction NOS
 G306. True posterior myocardial infarction
 G3071 Acute non-ST segment elevation myocardial infarction
 G308. Inferior myocardial infarction NOS
 G30B. Acute posterolateral myocardial infarction
 G30X. Acute transmural myocardial infarction of unspecif site
 G30X0 Acute ST segment elevation myocardial infarction
 G30y. Other acute myocardial infarction
 G30yz Other acute myocardial infarction NOS
 G30z. Acute myocardial infarction NOS
 G31.. Other acute and subacute ischaemic heart disease
 G310. Postmyocardial infarction syndrome
 G311. Preinfarction syndrome
 G3110 Myocardial infarction aborted
 G3111 Unstable angina
 G3113 Refractory angina

G3115 Acute coronary syndrome
G31y. Other acute and subacute ischaemic heart disease
G31y0 Acute coronary insufficiency
G31yz Other acute and subacute ischaemic heart disease NOS
G32.. Old myocardial infarction
G33.. Angina pectoris
G331. Prinzmetal's angina
G33z. Angina pectoris NOS
G33z3 Angina on effort
G33z5 Post infarct angina
G33z7 Stable angina
G33zz Angina pectoris NOS
G34.. Other chronic ischaemic heart disease
G340. Coronary atherosclerosis
G34y. Other specified chronic ischaemic heart disease
G34yz Other specified chronic ischaemic heart disease NOS
G34z. Other chronic ischaemic heart disease NOS
G35.. Subsequent myocardial infarction
G350. Subsequent myocardial infarction of anterior wall
G351. Subsequent myocardial infarction of inferior wall
G353. Subsequent myocardial infarction of other sites
G35X. Subsequent myocardial infarction of unspecified site
G36.. Certain current complication follow acute myocardial infarct
G38.. Postoperative myocardial infarction
G380. Postoperative transmural myocardial infarction anterior wall
G381. Postoperative transmural myocardial infarction inferior wall
G383. Postoperative transmural myocardial infarction unspec site
G384. Postoperative subendocardial myocardial infarction
G38z. Postoperative myocardial infarction, unspecified
G3y.. Other specified ischaemic heart disease
G3z.. Ischaemic heart disease NOS
G58.. Heart failure
G580. Congestive heart failure
G5800 Acute congestive heart failure
G5801 Chronic congestive heart failure
G5804 Congestive heart failure due to valvular disease
G581. Left ventricular failure
G5810 Acute left ventricular failure
G582. Acute heart failure
G583. Heart failure with normal ejection fraction
G584. Right ventricular failure
G58z. Heart failure NOS
G5y4z Post cardiac operation heart failure NOS
G670. Cerebral atherosclerosis
G677. Occlusion/stenosis cerebral arts not result cerebral infarct
G70.. Atherosclerosis

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|-------|--|
| G700. | Aortic atherosclerosis |
| G701. | Renal artery atherosclerosis |
| G70y0 | Carotid artery atherosclerosis |
| Gyu3. | [X]Ischaemic heart diseases |
| Gyu30 | [X]Other forms of angina pectoris |
| Gyu32 | [X]Other forms of acute ischaemic heart disease |
| Gyu33 | [X]Other forms of chronic ischaemic heart disease |
| Gyu34 | [X]Acute transmural myocardial infarction of unspecif site |
| Gyu36 | [X]Subsequent myocardial infarction of unspecified site |
| ZV457 | [V]Presence of aortocoronary bypass graft |
| ZV458 | [V]Presence of coronary angioplasty implant and graft |
| ZV45K | [V]Presence of coronary artery bypass graft |

| READ_CD | DESCRIPTION (DIABETES) |
|---------|--|
| C1001 | Diabetes mellitus, adult onset, no mention of complication |
| C1011 | Diabetes mellitus, adult onset, with ketoacidosis |
| C1021 | Diabetes mellitus, adult onset, with hyperosmolar coma |
| C1031 | Diabetes mellitus, adult onset, with ketoacidotic coma |
| C1041 | Diabetes mellitus, adult onset, with renal manifestation |
| C1051 | Diabetes mellitus, adult onset, + ophthalmic manifestation |
| C1061 | Diabetes mellitus, adult onset, + neurological manifestation |
| C1071 | Diabetes mellitus, adult, + peripheral circulatory disorder |
| C1072 | Diabetes mellitus, adult with gangrene |
| C1074 | NIDDM with peripheral circulatory disorder |
| C109. | Non-insulin dependent diabetes mellitus |
| C1090 | Non-insulin-dependent diabetes mellitus with renal comps |
| C1091 | Non-insulin-dependent diabetes mellitus with ophthalm comps |
| C1092 | Non-insulin-dependent diabetes mellitus with neuro comps |
| C1093 | Non-insulin-dependent diabetes mellitus with multiple comps |
| C1094 | Non-insulin dependent diabetes mellitus with ulcer |
| C1095 | Non-insulin dependent diabetes mellitus with gangrene |
| C1096 | Non-insulin-dependent diabetes mellitus with retinopathy |
| C1097 | Non-insulin dependent diabetes mellitus - poor control |
| C1099 | Non-insulin-dependent diabetes mellitus without complication |
| C109A | Non-insulin dependent diabetes mellitus with mononeuropathy |
| C109B | Non-insulin dependent diabetes mellitus with polyneuropathy |
| C109C | Non-insulin dependent diabetes mellitus with nephropathy |
| C109D | Non-insulin dependent diabetes mellitus with hypoglyca coma |
| C109E | Non-insulin depend diabetes mellitus with diabetic cataract |
| C109F | Non-insulin-dependent d m with peripheral angiopath |
| C109G | Non-insulin dependent diabetes mellitus with arthropathy |
| C109H | Non-insulin dependent d m with neuropathic arthropathy |
| C109J | Insulin treated Type 2 diabetes mellitus |
| C109K | Hyperosmolar non-ketotic state in type 2 diabetes mellitus |
| C10F. | Type 2 diabetes mellitus |
| C10F0 | Type 2 diabetes mellitus with renal complications |
| C10F1 | Type 2 diabetes mellitus with ophthalmic complications |

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|-------|--|
| C10F2 | Type 2 diabetes mellitus with neurological complications |
| C10F3 | Type 2 diabetes mellitus with multiple complications |
| C10F4 | Type 2 diabetes mellitus with ulcer |
| C10F5 | Type 2 diabetes mellitus with gangrene |
| C10F6 | Type 2 diabetes mellitus with retinopathy |
| C10F7 | Type 2 diabetes mellitus - poor control |
| C10F9 | Type 2 diabetes mellitus without complication |
| C10FA | Type 2 diabetes mellitus with mononeuropathy |
| C10FB | Type 2 diabetes mellitus with polyneuropathy |
| C10FC | Type 2 diabetes mellitus with nephropathy |
| C10FD | Type 2 diabetes mellitus with hypoglycaemic coma |
| C10FE | Type 2 diabetes mellitus with diabetic cataract |
| C10FF | Type 2 diabetes mellitus with peripheral angiopathy |
| C10FG | Type 2 diabetes mellitus with arthropathy |
| C10FH | Type 2 diabetes mellitus with neuropathic arthropathy |
| C10FJ | Insulin treated Type 2 diabetes mellitus |
| C10FK | Hyperosmolar non-ketotic state in type 2 diabetes mellitus |
| C10FL | Type 2 diabetes mellitus with persistent proteinuria |
| C10FM | Type 2 diabetes mellitus with persistent microalbuminuria |
| C10FN | Type 2 diabetes mellitus with ketoacidosis |
| C10FQ | Type 2 diabetes mellitus with exudative maculopathy |
| C10FR | Type 2 diabetes mellitus with gastroparesis |
| C10y1 | Diabetes mellitus, adult, + other specified manifestation |
| C10z1 | Diabetes mellitus, adult onset, + unspecified complication |
| L1806 | Pre-existing diabetes mellitus, non-insulin-dependent |

| READ_CD | DESCRIPTION (DIABETES) |
|---------|--------------------------------|
| G200. | Malignant essential hypertens. |
| G220. | Malignant hypertens.renal dis. |
| G2100 | Malig.hypert.heart dis.-no CCF |
| G210z | Malig.hypertens.heart dis. NOS |
| G2111 | Benign hypert.heart dis.+ CCF |
| G2400 | Second.malig.renovasc.hypert. |
| G240z | Secondary malign.hypertens.NOS |
| G201. | Benign essential hypertension |
| G221. | Benign hypertensive renal dis. |
| G21z0 | Hypertens.heart dis.NOS-no CCF |
| G24z0 | Secondary renovasc.hypert. NOS |
| G2... | Hypertensive disease |
| G20.. | Essential hypertension |
| G22.. | Hypertensive renal disease |
| G26.. | Severe hypertensin (NICE 2011) |
| G27.. | Hypertnsn resistnt to drg ther |
| G2y.. | Hypertensive disease OS |
| G20z. | Essential hypertension NOS |
| G22z. | Hypertensive renal disease NOS |
| G203. | Diastolic hypertension |

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|-------|--------------------------------|
| G232. | Hypert ht&ren d+(congs)ht fail |
| G234. | Hyp ht&ren d+both(con)h&r fail |
| G244. | Hypertens 2ndry endocrin disor |
| G202. | Systolic hypertension |
| G21z1 | Hypertens.heart dis.NOS- + CCF |
| G222. | Hypertens renal dis+renal fail |
| G233. | Hypertn hrt&ren dis+renal fail |
| G24z1 | Hypertension secondary to drug |
| G21zz | Hypertensive heart disease NOS |
| G24zz | Secondary hypertension NOS |
| G21.. | Hypertensive heart disease |
| G2101 | Malig.hypert.heart dis.-+ CCF |
| G2110 | Benign hypert.heart dis-no CCF |
| G211z | Benign hypertens.heart dis.NOS |
| G23.. | Hypertensive heart+renal dis. |
| G24.. | Secondary hypertension |
| G2410 | Second.benign renovasc.hypert. |
| G241z | Secondary benign hypertens.NOS |
| G25.. | Stge 1 hypertensin (NICE 2011) |
| G28.. | Stge 2 hypertensin (NICE 2011) |
| G2z.. | Hypertensive disease NOS |
| G211. | Benign hypertensive heart dis. |
| G231. | Benign hypert.heart+renal dis. |
| G241. | Secondary benign hypertension |
| G251. | Stage 1 hyp wi ev end org dmge |
| G21z. | Hypertensive heart disease NOS |
| G23z. | Hypertens.heart+renal dis.NOS |
| G24z. | Secondary hypertension NOS |
| G210. | Malignant hypertens.heart dis. |
| G230. | Malig.hypert.heart+renal dis. |
| G240. | Secondary malignant hypertens. |
| G250. | Stage 1 hyp wo ev end org dmge |

| READ_CD | DESCRIPTION (Hyperlipidaemia) |
|---------|-------------------------------|
|---------|-------------------------------|

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|-------|--------------------------------|
| C324. | Hyperlipidaemia NOS |
| C322. | Mixed hyperlipidaemia |
| C3201 | Hyperbetalipoproteinaemia |
| C3203 | LDL hyperlipoproteinaemia |
| C320. | Pure hypercholesterolaemia |
| C320y | Pure hypercholesterolaemia OS |
| C3200 | Familial hypercholesterolaemia |
| C320z | Pure hypercholesterolaemia NOS |
| C3202 | Hyperlipidaemia, group A |
| C3206 | Polygenic hypercholesterolemia |
| C3205 | Fam defect apolipoprot B-100 |
| C3204 | Fredrickson type IIa lipidaem |
| C328. | Dyslipidaemia |

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|---------|---|
| C321. | Pure hyperglyceridaemia |
| C3210 | Hypertriglyceridaemia |
| READ_CD | DESCRIPTION (INTERSTITIAL LUNG DISEASE) |
| H58y3 | Interstitial lung disease (NEC) |
| H58y7 | Interstitial lung disease due to connective tissue disease |
| H58y5 | Respiratory bronchiolitis associated with Interstitial lung disease |
| H58y6 | Interstitial lung disease due to collagen vascular disease |
| READ_CD | DESCRIPTION (BACKPAIN) |
| 16C9. | Chronic low back pain |
| N142. | Pain in lumbar spine |
| N127. | Lumbar disc degeneration |
| N12z. | Other/unspec.disc disorders |
| 8HTH. | Referral to back pain clinic |
| N12C. | Disc prolapse + radiculopathy |
| N122. | Lumbar disc replacement |
| N123. | Disc unsp. displ. – no myelopathy |
| N143. | Sciatica |
| 16C6. | Back pain without radiat NOS |
| 16C7. | Upper backache |
| N128. | Degenerative disc disease NOS |
| N12D. | Narrowing disc space |
| N1420 | Lumbago with sciatica |
| N145. | Backache unspecified |
| N141. | Pain in thoracic spine |
| READ_CD | DESCRIPTION (BACKPAIN) |
| 1M10. | Knee pain |
| N2450 | Hand pain |
| N2451 | Foot pain |
| N2452 | Pain in leg |
| N2454 | Calf pain |
| N2455 | Axillary pain |
| N2456 | Tender heel pad |
| N2457 | Shoulder pain |
| 1M13. | Ankle pain |
| 1M01. | Wrist pain |
| READ_CD | DESCRIPTION (NSAID) |
| j2m.. | Aceclofenac |
| j2m2. | Aceclofenac 100mg tablet |
| j2m1. | Preservex 100mg tablet |
| j2j.. | Acemetacin |
| j2j1. | Acemetacin 60mg capsule |
| j2j2. | Emflex 60mg capsule |
| x02LX | Aspirin |
| x04tL | Oral aspirin |
| j111. | Aspirin 300mg tablet |
| di15. | Claradin 300mg tablet |

di16. Laboprin 300mg tablet
di11. Aspirin [CNS] 300mg tablet
j112. Aspirin 300mg dispersible tablet
di1r. Disprin 300mg dispersible tablet
di18. Solprin 300mg dispersible tablet
di12. Aspirin [CNS] 300mg dispersible tablet
bu27. Aspirin 300mg effervescent tablet
bu26. Platet 300mg effervescent tablet
di1m. Aspirin 300mg soluble tablet
di1f. Aspirin 300mg e/c tablet
di1k. Caprin 300mg e/c tablet
di1c. Nu-Seals Aspirin 300mg e/c tablet
bu2b. Aspirin 300mg m/r tablet
bu2a. Disprin CV 300mg m/r tablet
di1h. Aspirin 324mg e/c tablet
di1a. Caprin 324mg e/c tablet
di19. Aspirin 500mg m/r tablet
x02AA Anadin All-Night 500mg m/r tablet
di1b. Levius 500mg m/r tablet
di1p. Aspirin 500mg soluble tablet
di1q. Aspro Clear Maximum Strength soluble tablet
di1i. Aspirin 600mg tablet
di17. Paynocil 600mg tablet
di1e. Palaprin Forte 600mg tablet
di1g. Aspirin 600mg e/c tablet
di1d. Nu-Seals Aspirin 600mg e/c tablet
bu2l. Aspirin 162.5mg m/r capsule
bu2j. Caspac XL 162.5mg m/r capsule
di14. Aspergum 227mg chewing gum
di1j. Laboprin DL 900mg sachet
x01Kv Aspirin tablets
x01Kw Rectal Aspirin
di1o. Aspirin 150mg suppository
di1n. Aspirin 300mg suppository
x01Kx Aspirin compound preparation
x000x Co-codaprin
dia4. Co-codaprin 8mg/400mg tablet
dia5. Co-codaprin 8mg/400mg dispersible tablet
diab. Codis dispersible tablet
diaO. Co-codaprin 8mg/500mg dispersible tablet
diaP. Codis 500 dispersible tablet
x00et Aspirin+codeine 300mg/8mg tablet
x00i7 Disprin Direct dispersible tablet
dibA. Aspirin+methocarbamol 325mg/400mg tablet
diaG. Aspirin+papaveretum 500mg/7.71mg dispersible tablet
dia9. Aspav dispersible tablet

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|-------|---|
| diay. | Anadin tablet |
| diaD. | Anadin Extra tablet |
| dia8. | Antoin dispersible tablet |
| diaz. | Askit powder |
| diae. | Doloxene Compound capsule |
| diaf. | Equagesic tablet |
| diai. | Hypon tablet |
| dicH. | Phensic tablet |
| dibq. | Trancoprin tablet |
| dia1. | Aspirin/paracetamol/codeine tablets |
| diat. | Aspirin+papaveretum 500mg/10mg dispersible tablet |
| di1.. | Aspirin [central nervous system use] |
| j11.. | Aspirin [musculoskeletal use] |
| x02Mm | Benorilate |
| j12x. | Benorilate 750mg tablet |
| j121. | Benoral 750mg tablet |
| j12y. | Benorilate 2g/sachet granules |
| j122. | Benoral 2g/sachet granules |
| j12z. | Benorilate 2g/5mL s/f suspension |
| x00eL | Benoral 2g/5mL s/f suspension |
| j123. | Benoral 2g/5mL sugar free suspension 150mL |
| j124. | Benoral 2g/5mL sugar free suspension 300mL |
| di3.. | Benorylate [central nervous sytem use] |
| j12.. | Benorilate [musculoskeletal use] |
| jA2.. | Get from Read code browser/ref |
| j2t.. | Dexibuprofen |
| j2ty. | Dexibuprofen 300mg tablet |
| j2t2. | Seractil 300mg tablet |
| j2tz. | Dexibuprofen 400mg tablet |
| j2t1. | Seractil 400mg tablet |
| j2q.. | Dexketoprofen |
| j2qz. | Dexketoprofen 25mg tablet |
| j2q1. | Keral 25mg tablet |
| x01Ky | Diclofenac |
| x01Kz | Oral diclofenac |
| j2ry. | Diclofenac potassium 25mg tablet |
| j2r1. | Voltarol Rapid 25mg tablet |
| j2rz. | Diclofenac potassium 50mg tablet |
| j2r2. | Voltarol Rapid 50mg tablet |
| j22d. | Diclofenac sodium 25mg e/c tablet |
| j2oC. | Acoflam 25mg e/c tablet |
| j2oo. | Defanac 25mg e/c tablet |
| j22I. | Dicloflex 25mg e/c tablet |
| j2o4. | Diclovol 25mg e/c tablet |
| j22I. | Diclozip-25 e/c tablet |
| j2oq. | Fenactol 25mg e/c tablet |

j22w. Flamrase 25mg e/c tablet
j22L. Lofensaid 25 tablet
j227. Rhumalgan 25mg e/c tablet
j22j. Valenac 25mg e/c tablet
j22f. Volraman 25mg e/c tablet
x00LD Voltarene 25mg e/c tablet
j221. Voltarol 25mg e/c tablet
j22u. Diclofenac sodium 25mg tablets
j22e. Diclofenac sodium 50mg e/c tablet
j2oB. Acoflam 50mg e/c tablet
j2op. Defanac 50mg e/c tablet
j22J. Dicloflex 50mg e/c tablet
j2o5. Diclovol 50mg e/c tablet
j22m. Diclozip-50 e/c tablet
j2or. Fenactol 50mg e/c tablet
j22x. Flamrase 50mg e/c tablet
j22s. Isclofen 50mg e/c tablet
j22M. Lofensaid 50 tablet
j228. Rhumalgan 50mg e/c tablet
j22k. Valenac 50mg e/c tablet
j22g. Volraman 50mg e/c tablet
x00LE Voltarene 50mg e/c tablet
j222. Voltarol 50mg e/c tablet
j22v. Diclofenac sodium 50mg tablets
j22i. Diclofenac sodium 50mg dispersible tablet
j22h. Voltarol 50mg dispersible tablet
j22y. Diclofenac sodium 75mg m/r tablet
j2oA. Acoflam SR 75mg m/r tablet
j2ol. Defanac SR 75mg m/r tablet
j2o8. Dexomon SR 75mg m/r tablet
j2o1. Dicloflex SR 75mg m/r tablet
j2o6. Diclovol SR 75mg m/r tablet
j22Y. Diclotard 75 m/r tablet
j2ow. Econac SR 75mg tablet
j2os. Fenactol SR 75mg m/r tablet
j2o2. Flamatak MR 75mg m/r tablet
j2oG. Flamrase SR 75mg m/r tablet
j2oF. Rheumatac Retard 75mg m/r tablet
j22O. Rhumalgan CR 75mg m/r tablet
j22S. Lofensaid Retard 75 m/r tablet
j22V. Slofenac SR 75mg m/r tablet
j2ou. Valdic 75 Retard 75mg m/r tablet
j22P. Volsaid Retard 75mg m/r tablet
j22n. Voltarol SR 75mg m/r tablet
j22C. Diclofenac sodium 75mg m/r capsule
j22H. Diclomax SR 75mg m/r capsule

j2oM. Rhumalgan SR 75mg m/r capsule
j22R. Diclofenac sodium 75mg e/c+m/r capsule
j22B. Motifene 75mg e/c+m/r capsule
j22c. Diclofenac sodium 100mg m/r tablet
j2oD. Acoflam Retard 100mg m/r tablet
j2oJ. Closteril 100 m/r tablet
j2om. Defanac Retard 100mg m/r tablet
j2o9. Dexomon Retard 100mg m/r tablet
j22K. Dicloflex Retard 100mg m/r tablet
j22Z. Diclotard 100 m/r tablet
j2o7. Diclovol Retard 100mg m/r tablet
j2o3. Difenor XL 100mg m/r tablet
j22W. Digenac XL 100 m/r tablet
j2ox. Econac XL 100mg tablet
j2ot. Fenactol Retard 100mg m/r tablet
j2oE. Flamatak MR 100mg m/r tablet
j22A. Flamrase SR 100mg m/r tablet
j22X. Flexotard MR 100mg m/r tablet
j22T. Lofensaid Retard 100 m/r tablet
j22N. Rhumalgan CR 100mg m/r tablet
j22U. Slofenac SR 100mg m/r tablet
j2ov. Valdic 100 Retard 100mg m/r tablet
j22Q. Volsaid Retard 100mg m/r tablet
x00Ts Voltaren Retard 100mg m/r tablet
x00Tt Voltarene LP 100mg m/r tablet
j226. Voltarol Retard 100mg m/r tablet
j22r. Diclofenac sodium 100mg m/r capsule
j22q. Diclomax Retard 100mg m/r capsule
j2oL. Rhumalgan XL 100mg m/r capsule
x01L0 Rectal diclofenac
j22a. Diclofenac sodium 100mg suppository
j2oH. Econac 100mg suppository
j224. Voltarol 100mg suppository
j22F. Diclofenac sodium 25mg suppository
j22D. Voltarol 25mg suppository
j22G. Diclofenac sodium 50mg suppository
j22E. Voltarol 50mg suppository
j22b. Diclofenac sodium 12.5mg paediatric suppository
j225. Voltarol 12.5mg paediatric suppository
x01L1 Parenteral diclofenac
j229. Diclofenac sodium 75mg/3mL injection
j2oK. Econac 75mg/3mL injection
j223. Voltarol 75mg/3mL injection
j2oO. DICLOFENAC 75mg/2mL solution for injection
j2oN. DYLOJECT 75mg/2mL solution for injection
x00xb Topical diclofenac

| | |
|-------|---|
| ja1Y. | Diclofenac sodium 1% gel |
| x00C5 | Voltarol Emulgel |
| ja1A. | Voltarol Emulgel Topical gel 100g |
| ja1F. | Voltarol Emulgel Topical gel 20g |
| x05d3 | Voltarol Emulgel P topical gel |
| ja2g. | Voltarol Emulgel P topical gel 30g |
| ja2m. | Voltarol Emulgel P topical gel 50g |
| x05wX | Voltarol Pain-eze Emulgel 1% topical gel |
| ja2q. | Voltarol Pain-eze Emulgel 1% topical gel 30g |
| ja2w. | Diclofenac 1% 10cmx14cm patch |
| ja2s. | Voltarol Gel 1% 10cmx14cm patch |
| mt1z. | Diclofenac sodium 3% gel |
| x05J3 | Solaraze 3% gel |
| mt11. | Solaraze 3% gel 25g |
| ja2y. | Diclofenac sodium 1.5% topical solution |
| x05FX | Pennsaid 16mg/mL cutaneous solution |
| ja2e. | Pennsaid 1.5% topical solution 60mL |
| k6d5. | Diclofenac sodium 0.1% single-use eye drops |
| x00ca | Voltarol Ophtha 0.1% single-use eye drops |
| k6d1. | Voltarol Ophtha 0.1% single-use eye drops x4 |
| k6d2. | Voltarol Ophtha 0.1% single-use eye drops x40 |
| k6d6. | Voltarol Ophtha 0.1% single-use eye drops x5 |
| k6d3. | Diclofenac 0.1% single-use eye drops x4 |
| k6d4. | Diclofenac 0.1% single-use eye drops x40 |
| k6d7. | Diclofenac sodium 0.1% multidose eye drops |
| x05lh | Voltarol Ophtha 0.1% multidose eye drops |
| k6d8. | Voltarol Ophtha 0.1% multidose eye drops 5mL |
| j22.. | Diclofenac sodium product |
| j2o.. | Diclofenac sodium 2 |
| j2oP. | VOLTAROL ACTIVE 4% spray 15mL |
| j2oQ. | VOLTAROL ACTIVE 4% spray 30mL |
| j2oR. | ENSTAR XL 100mg m/r tablets |
| j2oy. | MOBIGEL 4% spray 25g |
| j2oz. | DICLOFENAC SODIUM 4% spray |
| j2r.. | Diclofenac potassium |
| j2r3. | VOLTAROL PAIN-EZE 12.5mg tablets |
| j2rx. | DICLOFENAC POTASSIUM 12.5mg tablets |
| k6d.. | Diclofenac sodium [eye] |
| mt1.. | Diclofenac sodium [actinic keratosis] |
| mt12. | SOLARAZE 3% gel 50g |
| mt13. | SOLARAZE 3% gel 100g |
| x02MM | Diflunisal |
| j233. | Diflunisal 250mg tablet |
| j231. | Dolobid 250mg tablet |
| x00fB | Dolobis 250mg tablet |
| j234. | Diflunisal 500mg tablet |

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| j232. | Dolobid 500mg tablet |
| di4.. | Diflunisal [CNS analgesic] [see j23..] |
| j23.. | Diflunisal [musculoskeletal use] |
| j24.. | Etodolac |
| j246. | Etodolac 200mg tablet |
| j245. | Lodine 200mg tablet |
| j242. | Ramodar 200mg tablet |
| j243. | Etodolac 200mg capsule |
| j24A. | Ebretin 200mg capsule |
| j241. | Lodine 200mg capsule |
| j247. | Etodolac 300mg capsule |
| j24B. | Ebretin 300mg capsule |
| j24C. | Eccoxolac 300mg capsule |
| j244. | Lodine 300mg capsule |
| j249. | Etodolac 600mg m/r tablet |
| j24D. | ETOPAN XL 600mg m/r tablets |
| j248. | Lodine SR 600mg m/r tablet |
| j25.. | Fenbufen |
| j258. | Fenbufen 300mg tablet |
| j25A. | Fenbuzip 300mg tablet |
| j253. | Lederfen 300mg tablet |
| j254. | Lederfen CP 300mg tablets |
| j257. | Fenbufen 300mg capsule |
| x00Dx | Cinopal 300mg capsule |
| j259. | Fenbuzip 300mg capsule |
| x026C | Lederfen 300mg capsule |
| j251. | Lederfen 300mg capsules x21 |
| j252. | Lederfen CP 300mg capsules x84 |
| j25y. | Fenbufen 450mg tablet |
| j25B. | Fenbuzip 450mg tablet |
| j255. | Lederfen 450mg tablet |
| j25z. | Fenbufen 450mg effervescent tablet |
| x026D | Lederfen F 450mg effervescent tablet |
| j256. | Lederfen F 450mg effervescent tablets 56 |
| x01L2 | Felbinac |
| ja1u. | Felbinac 3% gel |
| x026W | Traxam gel |
| ja1S. | Traxam 3% topical gel 100g |
| ja1v. | Traxam 3% topical gel 50g |
| x03hC | Traxam Pain Relief gel |
| ja2K. | Traxam Pain Relief gel 30g |
| ja1T. | Felbinac 3.17% foam |
| x026G | Traxam foam |
| ja1K. | TRAXAM 3.17% foam 100g |
| x02MN | Fenoprofen |
| di5z. | Fenoprofen 200mg tablet |

di51. Progesic 200mg tablet
j263. Fenoprofen 300mg tablet
j261. Fenopron 300mg tablet
j264. Fenoprofen 600mg tablet
j262. Fenopron 600mg tablet
x00fF Fepron 600mg tablet
di5.. Fenoprofen [analgesic]
j26.. Fenoprofen [musculoskeletal use]
j27.. Flurbiprofen
j27x. Flurbiprofen 50mg tablet
j271. Froben 50mg tablet
j27y. Flurbiprofen 100mg tablet
j272. Froben 100mg tablet
j275. Flurbiprofen 200mg m/r capsule
j274. Froben SR 200mg m/r capsule
lf3z. Flurbiprofen 8.75mg lozenge
lf33. Strefen Honey and Lemon 8.75mg lozenge
lf31. Strefen 8.75mg lozenge
lf32. Streflam 8.75mg lozenge
j27z. Flurbiprofen 100mg suppository
j273. Froben 100mg suppository
x026y Flurbiprofen sodium 0.03% single-use eye drops
x026x Ocuflen 0.03% single-use eye drops
k6c1. Ocuflen 0.03% single-use eye drops 0.4mL
k6cz. Flurbiprofen sodium 0.03% single-use eye drops 0.4mL
k6c.. Flurbiprofen sodium [eye]
lf3.. Flurbiprofen [oropharyngeal]
x02MO Ibuprofen product
x01L3 Oral ibuprofen
j281. Ibuprofen 200mg tablet
j28W. Advil 200mg tablet
j28Z. Anadin Ibuprofen 200mg tablet
j284. Apsifen 200mg tablet
j28q. Arthrofen 200 tablet
j287. Brufen 200mg tablet
j28C. Cuprofen 200mg tablet
j28b. Ebufac 200mg tablet
j2pQ. Galprofen Ibuprofen 200mg Caplet
x00fN Ibrufhalal 200mg tablet
j2pZ. IBUCALM 200mg tablets
j28e. Ibular 200mg tablet
j28g. Ibumetin 200mg tablet
j28R. Inoven 200mg Caplet
j2p5. Librofem 200mg tablet
j28E. Lidifen 200mg tablet
x00fZ Migrafen 200mg tablet

j28j. Motrin 200mg tablet
j2pH. Nurofen 200mg tablet
j2p1. Nurofen Advance 200mg tablet
j2pl. Nurofen 200mg Caplet
j2pD. Nurofen Mobile 200mg tablet
j2pS. Nurofen Tension Headache 200mg tablet
x00fi Pacifene 200mg tablet
j28m. Paxofen 200mg tablet
x00fn Phor Pain 200mg tablet
x00fs Proflex 200mg tablet
j28S. Relcofen 200mg tablet
j28M. Rimafen 200mg tablet
j282. Ibuprofen 400mg tablet
j28X. Advil Extra Strength 400mg tablet
j285. Apsifen 400mg tablet
j28r. Arthrofen 400 tablet
j288. Brufen 400mg tablet
j28Q. Cuprofen Maximum Strength 400mg tablet
j28c. Ebufac 400mg tablet
j2pa. IBUCALM 400mg tablets
j28K. Ibumed 400mg tablet
j28h. Ibumetin 400mg tablet
j28f. Ibular 400mg tablet
j28D. Isisfen 400mg tablet
j28F. Lidifen 400mg tablet
j2pB. Mandafen 400mg tablet
j28k. Motrin 400mg tablet
j2pU. Nurofen Maximum Strength Migraine Pain 400mg Caplet
x00fh Pacifene 400mg tablet
j28n. Paxofen 400mg tablet
x00fm Phor Pain 400mg tablet
j28N. Rimafen 400mg tablet
j28T. Relcofen 400mg tablet
j283. Ibuprofen 600mg tablet
j28L. Apsifen F 600mg tablet
j286. Apsifen F 600mg effervescent tablets
j28t. Arthrofen 600 tablet
j289. Brufen 600mg tablet
j28i. Ibumetin 600mg tablet
j28G. Lidifen 600mg tablet
j2p7. Mandafen 600mg tablet
j28l. Motrin 600mg tablet
j28o. Paxofen 600mg tablet
j28u. Ibuprofen 800mg tablet
j28p. Motrin 800mg tablet
j2pJ. Ibuprofen 200mg capsule

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| diaW. | Anadin Ultra 200mg capsule |
| j2pK. | Nurofen 200mg liquid capsule |
| j28x. | Ibuprofen 200mg m/r capsule |
| j28y. | Ibuprofen 300mg m/r capsule |
| j28d. | Fenbid 300mg Spansule |
| j2p3. | Nurofen Back Pain SR 300mg m/r capsule |
| x00Tg | Proflex 300mg m/r capsule |
| j2pW. | IBUPROFEN 400mg capsules |
| j2pV. | NUROFEN EXTRA STRENGTH 400mg liquid capsules |
| j2pY. | GALPHARM MAXIMUM STRENGTH IBUPROFEN 400mg liquid capsules |
| j28B. | Ibuprofen 800mg m/r tablet |
| j28A. | Brufen Retard 800mg m/r tablet |
| j28w. | Ibuprofen 100mg/5mL oral suspension |
| j28a. | Brufen 100mg/5mL syrup |
| j28Y. | Ibuprofen 100mg/5mL s/f oral suspension |
| j2pN. | Orbifen 100mg/5mL s/f oral suspension sachets |
| j28P. | Ibuprofen 600mg/sachet effervescent granules |
| j28v. | Brufen 600mg/sachet effervescent granules |
| x006P | Ibuprofen+codeine phosphate |
| j28V. | Ibuprofen+codeine phosphate 200mg/12.8mg tablet |
| j2pM. | Cuprofen PLUS tablet |
| j2pT. | Solpadeine Migraine Ibuprofen & Codeine tablet |
| j28U. | Solpaflex tablet |
| j28I. | Nurofen Plus tablet |
| j28z. | Ibuprofen+codeine phosphate 300mg/20mg m/r tablet |
| j28H. | Codafen Continus m/r tablet |
| j28O. | Ibuprofen+codeine phosphate 200mg/12.5mg tablet |
| x05YT | Oral ibuprofen compound product |
| j2pX. | ANADIN ULTRA DOUBLE STRENGTH 400mg liquid capsules |
| x01L4 | Topical ibuprofen |
| ja1x. | Ibuprofen 5% cream |
| x00HG | Proflex cream |
| ja1J. | Proflex 5% cream 50g |
| ja1w. | Proflex 5% cream 100g |
| x01L5 | Proflex Pain Relief cream |
| ja1R. | Proflex pain relief 5% cream 25g |
| ja22. | Proflex pain relief 5% cream 30g |
| ja2U. | Ibuprofen 5% foam |
| x03wA | Ibuleve 5% mousse |
| ja2V. | Ibuleve 5% mousse 125g |
| ja2a. | Ibuleve 5% mousse 75g |
| x04vt | Ibumousse 5% foam |
| ja2W. | Ibumousse 5% foam 125g |
| ja1U. | Ibuprofen 5% gel |
| x049k | Cuprofen 5% gel |
| ja2Q. | Cuprofen 5% gel 30g |

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| ja2R. | Cuprofen 5% gel 50g |
| x03dl | Fenbid 5% gel |
| ja2H. | Fenbid 5% gel 100g |
| ja2M. | Fenbid 5% gel 30g |
| ja2N. | Fenbid 5% gel 50g |
| x026Q | Ibugel gel |
| ja1I. | Ibugel gel 100g |
| ja1W. | Ibuleve gel |
| x00Ms | Ibuleve Sports gel |
| x04yw | Nurofen gel |
| ja2Z. | Nurofen gel 35g |
| x05q2 | Phorpain 5% gel |
| ja2I. | Phorpain 5% gel 100g |
| ja2z. | Ibuprofen 10% gel |
| x05vE | Care Ibuprofen 10% gel |
| ja2o. | Care Ibuprofen 10% gel 50g |
| x04xv | Fenbid Forte 10% gel |
| ja2X. | Fenbid Forte 10% gel 100g |
| x0588 | Ibugel Forte 10% gel |
| ja2b. | Ibugel Forte 10% gel 100g |
| x05Bt | Ibuleve Maximum Strength 10% gel |
| ja2d. | Ibuleve Maximum Strength 10% gel 30g |
| ja2h. | Ibuleve Maximum Strength 10% gel 50g |
| x05wW | Lloyds Pharmacy Maximum Strength Ibuprofen 10% gel |
| ja2p. | Lloyds Pharmacy Maximum Strength Ibuprofen 10% gel 30g |
| x05Mg | Nurofen Maximum Strength 10% gel |
| ja2f. | Nurofen Maximum Strength 10% gel 30g |
| x05gD | Phorpain Gel Maximum Strength 10% gel |
| ja2i. | Phorpain Gel Maximum Strength 10% gel 30g |
| x02Dr | Ibuprofen+menthol 5%/3% gel |
| x02Ds | Deep Relief Ibuprofen gel |
| ja2A. | Deep Relief Ibuprofen gel 100g |
| ja2F. | Deep Relief Ibuprofen gel 15g |
| ja2G. | Deep Relief Ibuprofen gel 50g |
| ja24. | Ibuprofen 5% spray |
| ja25. | Ibuleve 5% topical spray |
| ja23. | Ibuspray topical spray |
| di6.. | Ibuprofen [cns analgesic] [see j28..] |
| j28.. | Ibuprofen [musculoskeletal use] |
| j2p.. | Ibuprofen [musculoskeletal use 2] |
| j2pb. | NUROFEN EXPRESS SOLUBLE 400mg/sachet oral powder |
| j2pc. | IBUPROFEN 400mg/sachet oral powder |
| j29.. | Indometacin product |
| j291. | Indometacin 25mg capsule |
| j294. | Artracin 25mg capsule |
| j296. | Imbrilon 25mg capsule |

j299. Indocid 25mg capsule
j29e. Indoflex 25mg capsule
j29f. Indolar 25mg capsule
j29r. Indomax 25 capsule
j29l. Mobilan 25mg capsule
j29F. Rimacid 25mg capsule
j292. Indometacin 50mg capsule
j295. Artracin 50mg capsule
j297. Imbrilon 50mg capsule
j29a. Indocid 50mg capsule
j29g. Indolar 50mg capsule
j29m. Mobilan 50mg capsule
j29E. Indometacin 25mg m/r tablet
j29B. Flexin-25 Continus m/r tablet
j29z. Indometacin 25mg m/r capsule
j29j. Indomod 25mg m/r capsule
j29D. Indometacin 50mg m/r tablet
j29C. Flexin-50 Continus m/r tablet
j29A. Indometacin 75mg m/r tablet
j29p. Flexin-75 Continus m/r tablet
j29y. Indometacin 75mg m/r capsule
j29G. Artracin SR 75mg m/r capsule
j29u. Berlind 75 Retard 75mg m/r capsule
j29d. Indocid R 75mg m/r capsule
j29i. Indolar SR 75mg m/r capsule
j29s. Indomax 75 SR m/r capsule
j29k. Indomod 75mg m/r capsule
j29J. Indotard MR 75mg m/r capsule
j29H. Maximet SR 75mg m/r capsule
j29K. Pardelprin MR 75mg m/r capsule
j29t. Rheumacin LA 75mg m/r capsule
j29o. Slo-Indo 75mg m/r capsule
j29w. Indomethacin 25mg/5mL s/f suspension
j29b. Indocid 25mg/5mL s/f suspension
j293. Indometacin 100mg suppository
j298. Imbrilon 100mg suppository
j29c. Indocid 100mg suppository
j29h. Indolar 100mg suppository
j29v. Indometacin 1mg injection (pdr for recon)
j29q. Indocid PDA 1mg injection (pdr for recon)
j2a.. Ketoprofen
j2a1. Ketoprofen 50mg capsule
j2a4. Alrheumat 50mg capsule
j2aE. Ketonal 50mg capsule
j2a5. Orudis 50mg capsule
j2ab. Tiloket 50mg capsule

j2a2. Ketoprofen 100mg capsule
j2aF. Ketonal 100mg capsule
j2a6. Orudis 100mg capsule
j2ay. Ketoprofen 100mg m/r capsule
j2aQ. Tiloket CR 100mg m/r capsule
j2aA. Ketoprofen CR 100mg m/r capsule
j2aC. Ketovail 100mg m/r capsule
j2aO. Ketpron XL 100mg m/r capsule
j2a8. Oruvail 100 m/r capsule
j2aw. Ketoprofen 150mg m/r capsule
j2aG. Oruvail 150 m/r capsule
j2az. Ketoprofen 200mg m/r capsule
j2aJ. Fenoket 200mg m/r capsule
j2aM. Jomethid XL 200mg m/r capsule
j2aR. Tiloket CR 200mg m/r capsule
j2aI. Ketocid 200 m/r capsule
j2aB. Ketoprofen CR 200mg m/r capsule
j2aL. Ketotard 200 XL m/r capsule
j2aD. Ketovail 200mg m/r capsule
j2aK. Ketozip CR 200mg m/r capsule
j2aP. Ketpron XL 200mg m/r capsule
j2aH. Larafen CR 200mg m/r capsule
j2a9. Oruvail 200 m/r capsule
j2a3. Ketoprofen 100mg suppository
j2a7. Orudis 100mg suppository
j2ax. Ketoprofen 100mg/2mL injection
j2aa. Oruvail IM 100mg/2mL injection
ja1V. Ketoprofen 2.5% gel
x04yU. Tiloket 2.5% gel
ja2Y. Tiloket 2.5% gel 100g
ja2r. Tiloket 2.5% gel 50g
x00N4. Oruvail gel
ja1H. Oruvail gel 100g
ja1O. Oruvail gel 30g
ja26. Powergel 2.5% gel
ja28. Powergel 2.5% gel 50g
ja29. Powergel 2.5% gel 100g
ja2J. Powergel 2.5% gel 50gx2
ja31. Powergel 2.5% dispenser gel 50g
ja32. Powergel 2.5% dispenser gel 100g
x03hs. Solpaflex gel
ja2L. Solpaflex gel 30g
j2aS. VALKET 200 RETARD 200mg m/r capsules
j2ac. AXORID 100mg/20mg m/r capsules
j2ad. AXORID 200mg/20mg m/r capsules
j2au. KETOPROFEN+OMEPRAZOLE 200mg/20mg m/r capsules

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| j2av. | KETOPROFEN+OMEPRazole 100mg/20mg m/r capsules |
| x01L6 | Ketorolac |
| x03ec | Oral ketorolac |
| o4a3. | Ketorolac trometamol 10mg tablet |
| o4a4. | Toradol 10mg tablet |
| x03ed | Parenteral ketorolac |
| o4a5. | Ketorolac trometamol 10mg/1mL injection |
| o4a6. | Toradol 10mg/1mL injection |
| o4a1. | Ketorolac trometamol 30mg/1mL injection |
| o4a2. | Toradol 30mg/1mL injection |
| x03eb | Topical ketorolac |
| k6g1. | Ketorolac trometamol 0.5% ophthalmic solution |
| x03ea | Acular 0.5% ophthalmic solution |
| k6g2. | Acular 0.5% ophthalmic solution 10mL |
| k6g.. | Ketorolac trometamol [eye] |
| o4a.. | Ketorolac trometamol |
| j2s.. | Lornoxicam |
| j2sx. | Lornoxicam 8.6mg injection (pdr for recon) |
| j2s3. | Xefo 8.6mg injection (pdr for recon) |
| j2sz. | Lornoxicam 4mg tablet |
| j2s1. | Xefo 4mg tablet |
| j2sy. | Lornoxicam 8mg tablet |
| j2s2. | Xefo 8mg tablet |
| x02MP | Mefenamic acid |
| j2b1. | Mefenamic acid 250mg capsule |
| j2b8. | Contraflam 250mg capsule |
| j2b6. | Dysman-250 capsule |
| j2b9. | Meflam 250 capsule |
| j2bB. | Opustan 250mg capsule |
| j2b2. | Ponstan 250mg capsule |
| j2bz. | Mefenamic acid 250mg dispersible tablet |
| j2b5. | Ponstan Dispersible 250mg tablet |
| j2bx. | Mefenamic acid 500mg tablet |
| j2bD. | Contraflam 500mg tablet |
| j2b7. | Dysman-500 tablet |
| j2bA. | Meflam 500 tablet |
| j2bC. | Opustan 500mg tablet |
| j2b3. | Ponstan Forte 500mg tablet |
| j2by. | Mefenamic acid 50mg/5mL suspension |
| j2b4. | Ponstan 50mg/5mL paediatric suspension |
| di7.. | Mefenamic acid [cns analgesic] [see j2b..] |
| j2b.. | Mefenamic acid [musculoskeletal use] |
| j2k.. | Nabumetone |
| j2k2. | Nabumetone 500mg tablet |
| j2k1. | Relifex 500mg tablet |
| j2k6. | Nabumetone 500mg dispersible tablet |

j2k5. Relifex 500mg dispersible tablet
j2k4. Nabumetone 500mg/5mL suspension
j2k3. Relifex 500mg/5mL suspension
j2c.. Naproxen
j2c1. Naproxen 250mg tablet
j2cc. Arthrocin 250 tablet
j2ce. Arthrocin 250mg tablet
j2c3. Laraflex 250mg tablet
j2c5. Naprosyn 250mg tablet
j2cm. Prosaic 250mg tablet
j2cA. Rheuflex-250 tablet
j2cH. Rimoxyn 250mg tablet
j2cl. Timpron 250mg tablet
j2ca. Valrox 250mg tablet
j2ch. Naproxen 375mg tablet
j2cg. Naprosyn 375mg tablet
j2c2. Naproxen 500mg tablet
j2cd. Arthrocin 500 tablet
j2cf. Arthrocin 500mg tablet
j2c4. Laraflex 500mg tablet
j2c6. Naprosyn 500mg tablet
j2cn. Prosaic 500mg tablet
j2cB. Rheuflex-500 tablet
j2cG. Rimoxyn 500mg tablet
j2cF. Timpron 500mg tablet
j2cb. Valrox 500mg tablet
j2ck. Naproxen 250mg e/c tablet
j2cM. Arthrocin 250mg e/c tablet
j2co. Naprosyn EC 250mg e/c tablet
j2ci. Nycopren 250mg e/c tablet
j2cJ. Timpron 250 EC e/c tablet
j2cw. Naproxen 375mg e/c tablet
j2cp. Naprosyn EC 375mg e/c tablet
j2cl. Naproxen 500mg e/c tablet
j2cN. Arthrocin 500mg e/c tablet
j2cq. Naprosyn EC 500mg e/c tablet
j2cj. Nycopren 500mg e/c tablet
j2cK. Timpron 500 EC e/c tablet
j2cs. Naproxen 375mg m/r tablet
j2cC. Pranoxen Continus 375mg m/r tablet
j2ct. Naproxen 500mg m/r tablet
j2cE. Naprosyn SR 500mg m/r tablet
j2cD. Pranoxen Continus 500mg m/r tablet
di8z. Naproxen sodium 275mg tablet
di81. Synflex 275mg tablet
j2cv. Naproxen 500mg/sachet granules

j2c9. Naprosyn 500mg/sachet granules
j2cy. Naproxen 125mg/5mL suspension
j2c7. Naprosyn 125mg/5mL suspension
j2cz. Naproxen 500mg suppository
j2c8. Naprosyn 500mg suppository
di8.. Naproxen sodium
j2cP. VIMOVO 500mg/20mg m/r tablets
j2cZ. NAPROXEN+ESOMEPRAZOLE 500mg/20mg m/r tablets
x01L7 Nefopam
di9y. Nefopam hydrochloride 30mg tablet
di91. Acupan 30mg tablet
di9z. Nefopam hydrochloride 20mg/1mL injection
di92. Acupan 20mg/1mL injection
di9.. Nefopam hydrochloride
j2d.. Phenylbutazone product
j2d1. Phenylbutazone 100mg tablet
j2d5. Butazolidin 100mg tablet
j2d7. Butazone 100mg tablet
x00LC Phenylbutazone 100mg e/c tablet
j2d3. Butacote 100mg e/c tablet
j2d2. Phenylbutazone 200mg tablet
j2d4. Butacote 200mg tablet
j2d6. Butazolidin 200mg tablet
j2d8. Butazone 200mg tablet
j2e.. Piroxicam
j2e1. Piroxicam 10mg capsule
j2e3. Feldene 10mg capsule
j2ee. Flamatrol 10mg capsule
j2e8. Larapam 10mg capsule
j2eA. Piroflam 10 capsule
j2ea. Pirozip 10 capsule
j2e2. Piroxicam 20mg capsule
j2e4. Feldene 20mg capsule
j2ef. Flamatrol 20mg capsule
j2e9. Larapam 20mg capsule
j2eB. Piroflam 20 capsule
j2eb. Pirozip 20 capsule
j2ex. Piroxicam 10mg dispersible tablet
j2e5. Feldene 10mg dispersible tablet
j2ey. Piroxicam 20mg dispersible tablet
j2e6. Feldene 20mg dispersible tablet
j2ew. Piroxicam 20mg melt tablet
j2ec. Feldene Melt 20mg tablet
j2ev. Piroxicam 20mg/1mL injection
j2ed. Feldene IM 20mg/1mL injection
j2ez. Piroxicam 20mg suppository

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| j2e7. | Feldene 20mg suppository |
| ja1y. | Piroxicam 0.5% gel |
| x00MI | Feldene 0.5% gel |
| ja1M. | Feldene 0.5% topical gel 112g |
| ja1z. | Feldene 0.5% topical gel 60g |
| x03kk | Feldene P 0.5% gel |
| ja2O. | Feldene P 0.5% gel 30g |
| ja2P. | Feldene P 0.5% gel 7.5g |
| x026F | Feldene Sports 0.5% gel |
| ja1B. | Feldene sports gel 30g |
| j2i.. | Piroxicam-betadex |
| j2i1. | Piroxicam 20mg tablet |
| j2i2. | Brexidol 20mg tablet |
| j2f.. | Sulindac |
| j2fy. | Sulindac 100mg tablet |
| j2f1. | Clinoril 100mg tablet |
| j2fz. | Sulindac 200mg tablet |
| j2f2. | Clinoril 200mg tablet |
| j2l.. | Tenoxicam |
| j2l1. | Tenoxicam 20mg tablet |
| j2l2. | Mobiflex 20mg tablet |
| j2l5. | Tenoxicam 20mg effervescent tablet |
| j2l6. | Mobiflex 20mg effervescent tablet |
| j2l3. | Tenoxicam 20mg/sachet granules |
| j2l4. | Mobiflex Milk 20mg/sachet granules |
| j2l7. | Tenoxicam 20mg injection+diluent |
| j2l8. | Mobiflex vial 20mg injection+diluent |
| j2g.. | Tiaprofenic acid |
| j2gx. | Tiaprofenic acid 200mg tablet |
| j2g1. | Surgam 200mg tablet |
| j2gy. | Tiaprofenic acid 300mg tablet |
| j2g2. | Surgam 300mg tablet |
| j2g5. | Tiaprofenic acid 300mg m/r capsule |
| j2g4. | Surgam SA 300mg m/r capsule |
| j2gz. | Tiaprofenic acid 300mg/sachet granules |
| j2g3. | Surgam 300mg/sachet granules |
| j2h.. | Tolmetin |
| j2hy. | Tolmetin 200mg capsule |
| j2h2. | Tolectin 200mg capsule |
| j2hz. | Tolmetin 400mg capsule |
| j2h3. | Tolectin 400mg capsule |
| j2h1. | Tolectin DS 400mg capsules |

| READ_CD | DESCRIPTION (DMARD) |
|---------|---|
| ej26. | Chloroquine phosphate 250mg tablets |
| ej25. | Nivaquine 272.5mg(200mg base)/5ml Injection (Aventis Pharma) |
| ejC.. | Chloroquine phosphate 250mg tablets and Proguanil 100mg tablets |

j54z. Hydroxychloroquine 200mg tablets
ej24. Nivaquine 68mg/5ml Oral solution (Aventis Pharma)
ej23. Nivaquine 200mg Tablet (Aventis Pharma)
ej21. Avloclor 250mg tablets (AstraZeneca UK Ltd)
ej31. Plaquenil 200mg tablets (Sanofi)
j541. Plaquenil 200mg tablets (Sanofi)
ej2w. Chloroquine phosphate 80mg/5ml oral solution
ej22. Malarivon 80mg/5ml syrup (Wallace Manufacturing Chemists Ltd)
j542. Quinoric 200mg tablets (Bristol Laboratories Ltd)
h871. Adalimumab 40mg injection
h873. Adalimumab 40mg injection
h89w. Enbrel 25mg powder and solvent for solution for injection vials (Pfizer Ltd)
h892. Etanercept 25mg powder and solvent for solution for injection vials
h8Bz. Infliximab 100mg powder for solution for infusion vials
Enbrel 50mg powder and solvent for solution for injection vials (Wyeth
Pharmaceuticals)
h89z. Remicade 100mg powder for solution for infusion vials (Merck Sharp & Dohme Ltd)
h8B1. Humira 40mg Injection (Abbott Laboratories Ltd)
h872. Humira 40mg Injection (Abbott Laboratories Ltd)
h874. Humira 40mg Injection (Abbott Laboratories Ltd)
h891. Etanercept 50mg powder and solvent for solution for injection vials
h893. Etanercept 50mg injection solution
h895. Etanercept 50mg injection solution
h89v. Enbrel 25mg/0.5ml solution for injection pre-filled syringes (Pfizer Ltd)
h894. Etanercept 25mg/0.5ml solution for injection pre-filled syringes
h89u. Enbrel 50mg Solution for injection (Pfizer Consumer Healthcare Ltd)
h89x. Enbrel 50mg Solution for injection (Pfizer Consumer Healthcare Ltd)
Enbrel Paediatric 25mg powder and solvent for solution for injection vials (Pfizer
Ltd)
h89y. Cimzia 200mg/1ml solution for injection pre-filled syringes (UCB Pharma Ltd)
h8G2. Certolizumab pegol 200mg/1ml solution for injection pre-filled syringes
h8G1. Azathioprine 50mg powder for solution for injection vials
h71z. Azathioprine 50mg powder for solution for injection vials
h71y. Azathioprine 25mg tablets
h71x. Azathioprine 50mg tablets
h712. Imuran 25mg Tablet (Wellcome Medical Division)
h713. Imuran 50mg Tablet (Wellcome Medical Division)
h711. Azamune 50mg Tablet (Penn Pharmaceuticals Ltd)
h718. Azathioprine 10mg tablets
h714. Imuran 50mg powder for solution for injection vials (Aspen Pharma Trading Ltd)
h717. Oprisine 50mg Tablet (Opus Pharmaceuticals Ltd)
h715. Immunoprin 50mg tablets (Ashbourne Pharmaceuticals Ltd)
h716. Berkaprine 50mg Tablet (Rorer Pharmaceuticals Ltd)
h719. Imuran 10mg Tablet (Wellcome Medical Division)
hh11. Rituximab 100mg/10ml solution for infusion vials
hh12. Rituximab 500mg/50ml solution for infusion vials
h14.. Cyclophosphamide
h146. Endoxana 10mg tablet

h141. Cyclophosphamide 50mg tablet
h147. Endoxana 50mg tablet
h142. Cyclophosphamide 100mg injection (pdr for recon)
h148. Endoxana 100mg injection (pdr for recon)
h143. Cyclophosphamide 200mg injection (pdr for recon)
h14A. Cyclophos 200mg injection (pdr for recon)
h149. Endoxana 200mg injection (pdr for recon)
h144. Cyclophosphamide 500mg injection (pdr for recon)
h14B. Cyclophos 500mg injection (pdr for recon)
h145. Cyclophosphamide 1g injection (pdr for recon)
h14C. Cyclophos 1g injection (pdr for recon)
x00Nb Cyclophosphamide 1g/50mL infusion
x00Na Cyclophosphamide 2g/100mL infusion
x00NZ Cyclophosphamide 4g/200mL infusion
h82A. Neoral 25mg capsules (Novartis Pharmaceuticals UK Ltd)
h82C. Neoral 100mg capsules (Novartis Pharmaceuticals UK Ltd)
h82x. Ciclosporin 100mg/ml oral solution sugar free
h82D. Neoral 100mg/ml oral solution (Novartis Pharmaceuticals UK Ltd)
h829. Ciclosporin 50mg capsules
h826. Ciclosporin 25mg capsules
h827. Ciclosporin 100mg capsules
h824. Sandimmun 25mg capsules (Novartis Pharmaceuticals UK Ltd)
h82B. Neoral 50mg capsules (Novartis Pharmaceuticals UK Ltd)
h821. Sandimmun 100mg/ml oral solution (Novartis Pharmaceuticals UK Ltd)
h825. Sandimmun 100mg capsules (Novartis Pharmaceuticals UK Ltd)
h828. Sandimmun 50mg capsules (Novartis Pharmaceuticals UK Ltd)
h82E. Ciclosporin 10mg capsules
h82F. Neoral 10mg capsules (Novartis Pharmaceuticals UK Ltd)
Sandimmun 50mg/ml Concentrate for solution for infusion (Novartis Pharmaceuticals UK Ltd)
h822. Ciclosporin 50mg/1ml solution for infusion ampoules
h82y. Ciclosporin 50mg/1ml solution for infusion ampoules
h82I. Deximune 50mg capsules (Dexcel-Pharma Ltd)
h82J. Deximune 100mg capsules (Dexcel-Pharma Ltd)
h82H. Deximune 25mg capsules (Dexcel-Pharma Ltd)
h82z. Ciclosporin 250mg/5ml solution for infusion ampoules
h82.. Ciclosporin product
h82G. Sangcya 100mg/mL oral solution
h823. Sandimmun 250mg/5mL oily infusion concentrate
h82K. CAPIMUNE 25mg capsules
h82L. CAPIMUNE 50mg capsules
h82M. CAPIMUNE 100mg capsules
h82N. CAPSORIN 25mg capsules
h82O. CAPSORIN 50mg capsules
h82P. CAPSORIN 100mg capsules
j513. Myocrisin 10mg/0.5ml solution for injection ampoules (Sanofi)
j515. Myocrisin 50mg/0.5ml solution for injection ampoules (Sanofi)

j514. Myocrisin 20mg/0.5ml solution for injection ampoules (Sanofi)
j51z. Sodium aurothiomalate 50mg/0.5ml solution for injection ampoules
j51x. Sodium aurothiomalate 10mg/0.5ml solution for injection ampoules
j51y. Sodium aurothiomalate 20mg/0.5ml solution for injection ampoules
x01J9 Hydroxychloroquine
ej3.. Hydroxychloroquine sulphate [anti malarial]
j54.. Hydroxychloroquine sulphate [anti- rheumatic]
Kineret 100mg/0.67ml solution for injection pre-filled syringes (Swedish Orphan
Biovitrum Ltd)
h862.
h861. Anakinra 100mg/0.67ml solution for injection pre-filled syringes
h8Fz. Tocilizumab 80mg/4ml solution for infusion vials
h8Fy. Tocilizumab 200mg/10ml solution for infusion vials
j59z. Leflunomide 100mg tablets
j59x. Leflunomide 10mg tablets
j59y. Leflunomide 20mg tablets
j591. Arava 10mg tablets (Sanofi)
j592. Arava 20mg tablets (Sanofi)
j593. Arava 100mg tablets (Sanofi)
h34.. METHOTREXATE
h341. METHOTREXATE 2.5mg tablets
h342. METHOTREXATE 10mg tablets
h343. METHOTREXATE 2.5mg/1mL solution for injection
h344. METHOTREXATE 5mg/2mL solution for injection
h345. METHOTREXATE 25mg/1mL solution for injection
h346. METHOTREXATE 50mg/2mL solution for injection
h347. METHOTREXATE 100mg/4mL injection solution
h348. METHOTREXATE 200mg/8mL solution for injection
h349. METHOTREXATE 500mg/20mL solution for injection
h34A. METHOTREXATE 15mg/1.5mL solution for injection prefilled syringe
h34B. METHOTREXATE 20mg/2mL solution for injection prefilled syringe
h34C. METHOTREXATE 25mg/2.5mL solution for injection prefilled syringe
h34D. METOJECT 7.5mg/0.75mL solution for injection prefilled syringe
h34E. METOJECT 10mg/1mL solution for injection prefilled syringe
h34F. METOJECT 15mg/1.5mL solution for injection prefilled syringe
h34G. METOJECT 20mg/2mL solution for injection prefilled syringe
h34H. METOJECT 25mg/2.5mL solution for injection prefilled syringe
h34i. EMTEXATE 1g/40mL solution for injection
h34j. EMTEXATE 5g/200mL solution for injection
h34k. EMTEXATE 1g/10mL solution for injection
h34L. METOJECT 7.5mg/0.15mL solution for injection pfs
h34M. METHOTREXATE 7.5mg/0.15mL solution for injection pfs
h34N. METOJECT 10mg/0.2mL solution for injection prefilled syringe
h34O. METHOTREXATE 10mg/0.2mL solution for injection pfs
h34P. METOJECT 15mg/0.3mL solution for injection prefilled syringe
h34Q. METHOTREXATE 15mg/0.3mL solution for injection pfs
h34R. METOJECT 20mg/0.4mL solution for injection prefilled syringe

h34S. METHOTREXATE 20mg/0.4mL solution for injection pfs
h34T. METOJECT 25mg/0.5mL solution for injection prefilled syringe
h34U. METHOTREXATE 25mg/0.5mL solution for injection pfs
h34V. METOJECT 30mg/0.6mL solution for injection prefilled syringe
h34W. METHOTREXATE 30mg/0.6mL solution for injection pfs
h34X. EBETREX 7.5mg/0.75mL soln for injection prefilled syringe
h34Y. EBETREX 10mg/1mL solution for injection prefilled syringe
h34Z. EBETREX 15mg/1.5mL solution for injection prefilled syringe
h3G1. EBETREX 20mg/1mL solution for injection prefilled syringe
h3G2. EBETREX 25mg/1.25mL solution for injection prefilled syringe
h3G3. EBETREX 30mg/1.5mL solution for injection prefilled syringe
h3G4. METHOTREXATE 20mg/1mL solution for injection p/f syringe
h3G5. METHOTREXATE 25mg/1.25mL solution for injection p/f syringe
h3G6. METHOTREXATE 30mg/1.5mL solution for injection p/f syringe
h3G7. METOJECT 12.5mg/0.25mL soln for injection prefilled syringe
h3G8. METHOTREXATE 12.5mg/0.25mL solution for injection pfs
h3G9. METOJECT 17.5mg/0.35mL soln for injection prefilled syringe
h3GA. METHOTREXATE 17.5mg/0.35mL solution for injection pfs
h3GB. METOJECT 22.5mg/0.45mL soln for injection prefilled syringe
h3GC. METHOTREXATE 22.5mg/0.45mL solution for injection pfs
h3GD. METOJECT 27.5mg/0.55mL soln for injection prefilled syringe
h3GE. METHOTREXATE 27.5mg/0.55mL solution for injection pfs
j561. Auranofin 3mg tablets
j562. Ridaura Tiltab 3mg tablets (Astellas Pharma Ltd)
j521. Penicillamine 50mg tablets
j523. Penicillamine 250mg tablets
j522. Penicillamine 125mg tablets
j525. Distamine 125mg tablets (Alliance Pharmaceuticals Ltd)
j526. Distamine 250mg tablets (Alliance Pharmaceuticals Ltd)
j524. Distamine 50mg Tablet (Alliance Pharmaceuticals Ltd)
j528. Pendramine 250mg Tablet (Viatris Pharmaceuticals Ltd)
j527. Pendramine 125mg Tablet (Viatris Pharmaceuticals Ltd)
aa6z. Sulfasalazine 3g/100ml enema
aa64. Salazopyrin 3g/100ml Enema (Pharmacia Ltd)
aa62. Salazopyrin EN-Tabs 500mg (Pfizer Ltd)
j551. Salazopyrin EN-Tabs 500mg (Pfizer Ltd)
aa6v. Sulfasalazine 500mg gastro-resistant tablets
aa61. Salazopyrin 500mg Tablet (Pharmacia Ltd)
aa6y. Sulfasalazine 500mg tablet
j55z. Sulfasalazine 500mg suppositories
aa63. Salazopyrin 500mg Suppository (Pharmacia Ltd)
aa6u. Sulfasalazine 250mg/5ml oral solution
aa65. Salazopyrin 250mg/5ml oral suspension (Pfizer Ltd)
aa66. Sulfasalazine 500mg gastro-resistant tablets (Actavis UK Ltd)
Sulazine EC 500mg tablets (Genesis Pharmaceuticals Ltd)
j552.

| READ_CD | DESCRIPTION (SICKNOTE) |
|---------|---|
| 9DK.. | Sick note generated from secondary care done by GP practice |
| 9C8.. | Sickness notification of GP |
| 9C83. | Sickness payment record |
| 130.. | Sickness benefit |
| 1301. | Sickness benefit |
| 1302. | Statutory sick pay |
| 9K8.. | Sickness certificate |

Supplementary Table S2: Definition of serious infections from secondary care records using the International Classification of Diseases- 10th Revision

| ICD-10 Codes | Upper respiratory tract infections |
|---|--|
| J02.0 | Streptococcal sore throat |
| J00 | Acute nasopharyngitis (common cold) |
| J01.90 | Acute sinusitis, unspecified |
| J02.9 | Acute pharyngitis |
| J03.90 | Acute tonsillitis |
| J06.9 | Acute upper respiratory infections of unspecified site |
| J31.0 | Chronic rhinitis |
| J32.9 | Unspecified sinusitis (chronic) |
| R05 | Cough |
| Lower respiratory tract infections | |
| A37.90 | Whooping cough, unspecified organism |
| B97.4 | Respiratory syncytial virus |
| J41.0 | Simple chronic bronchitis |
| J41.1 | Micropurulent chronic bronchitis |
| J41.8 | Mixed simple and micropurulent chronic bronchitis |
| J42.0 | Unspecified chronic bronchitis |
| J14 | Pneumonia due to Haemophilus influenzae |
| J15.0 | Pneumonia due to Klebsiella pneumoniae |
| J15.1 | Pneumonia due to Pseudomonas |
| J15.2 | Pneumonia due to staphylococcus |
| J15.3 | Pneumonia due to streptococcus, group B |
| J15.4 | Pneumonia due to other streptococci |
| J15.5 | Pneumonia due to Escherichia coli |
| J15.6 | Pneumonia due to other aerobic Gram-negative bacteria |
| J15.7 | Pneumonia due to Mycoplasma pneumoniae |
| J15.8 | Other bacterial pneumonia |
| J15.9 | Bacterial pneumonia, unspecified |
| J18.0 | Bronchopneumonia, unspecified |
| J18.1 | Lobar pneumonia, unspecified |
| J18.2 | Hypostatic pneumonia, unspecified |
| J18.8 | Other pneumonia, organism unspecified |
| J18.9 | Pneumonia, unspecified |
| R09.1 | Pleurisy |
| Tuberculosis | |
| A15.0 | Tuberculosis of lung, confirmed by sputum microscopy with or without culture |
| A15.1 | Tuberculosis of lung, confirmed by culture only |
| A15.2 | Tuberculosis of lung, confirmed histologically |
| A15.3 | Tuberculosis of lung, confirmed by unspecified means |
| A15.4 | Tuberculosis of intrathoracic lymph nodes, confirmed bacteriologically and histologically |
| A15.5 | Tuberculosis of larynx, trachea and bronchus, confirmed bacteriologically and histologically |

| | |
|-------|---|
| A15.6 | Tuberculous pleurisy, confirmed bacteriologically and histologically |
| A15.7 | Primary respiratory tuberculosis, confirmed bacteriologically and histologically |
| A15.8 | Other respiratory tuberculosis, confirmed bacteriologically and histologically |
| A15.9 | Respiratory tuberculosis unspecified, confirmed bacteriologically and histologically |
| A16.2 | Tuberculosis of lung, without mention of bacteriological or histological confirmation |
| A16.3 | Tuberculosis of intrathoracic lymph nodes, without mention of bacteriological or histological confirmation |
| A16.4 | Tuberculosis of larynx, trachea and bronchus, without mention of bacteriological or histological confirmation |
| A16.5 | Tuberculous pleurisy, without mention of bacteriological or histological confirmation |
| A16.7 | Primary respiratory tuberculosis without mention of bacteriological or histological confirmation |
| A16.8 | Other respiratory tuberculosis, without mention of bacteriological or histological confirmation |
| A16.9 | Respiratory tuberculosis unspecified, without mention of bacteriological or histological confirmation |
| A17.0 | Tuberculous meningitis |
| A17.1 | Meningeal tuberculoma |
| A17.8 | Other tuberculosis of nervous system |
| A17.9 | Tuberculosis of nervous system, unspecified |
| A18.0 | Tuberculosis of bones and joints |
| A18.1 | Tuberculosis of genitourinary system |
| A18.2 | Tuberculous peripheral lymphadenopathy |
| A18.3 | Tuberculosis of intestines, peritoneum and mesenteric glands |
| A18.4 | Tuberculosis of skin and subcutaneous tissue |
| A18.5 | Tuberculosis of eye |
| A18.6 | Tuberculosis of ear |
| A18.7 | Tuberculosis of adrenal glands |
| A18.8 | Tuberculosis of other specified organs |
| A19.0 | Acute miliary tuberculosis of a single specified site |
| A19.1 | Acute miliary tuberculosis of multiple sites |
| A19.2 | Acute miliary tuberculosis, unspecified |
| A19.8 | Other miliary tuberculosis |
| A19.9 | Miliary tuberculosis, unspecified |

GI infections

| | |
|-------|---|
| A03.0 | Shigellosis due to <i>Shigella dysenteriae</i> |
| A03.1 | Shigellosis due to <i>Shigella flexneri</i> |
| A03.2 | Shigellosis due to <i>Shigella boydii</i> |
| A03.3 | Shigellosis due to <i>Shigella sonnei</i> |
| A03.8 | Other shigellosis |
| A03.9 | Shingellosis, unspecified |
| A07.1 | Giardiasis |
| A00.0 | Cholera due to <i>Vibrio cholerae</i> 01, biovar cholerae |

| | |
|-------|--|
| A00.1 | Cholera due to <i>Vibrio cholerae</i> 01, biovar eltor |
| A00.9 | Cholera, unspecified |
| A01.0 | Typhoid fever |
| A01.1 | Paratyphoid fever A |
| A01.2 | Paratyphoid fever B |
| A01.3 | Paratyphoid fever C |
| A01.4 | Paratyphoid fever, unspecified |
| A09.0 | Other and unspecified gastroenteritis and colitis of infectious origin |
| A09.9 | Gastroenteritis and colitis of unspecified origin |
| A04.0 | Enteropathogenic <i>Escherichia coli</i> infection |
| A04.1 | Enterotoxigenic <i>Escherichia coli</i> infection |
| A04.2 | Enteroinvasive <i>Escherichia coli</i> infection |
| A04.3 | Enterohaemorrhagic <i>Escherichia coli</i> infection |
| A04.4 | Other intestinal <i>Escherichia coli</i> infections |
| A04.5 | <i>Campylobacter</i> enteritis |
| A04.6 | Enteritis due to <i>Yersinia enterocolitica</i> |
| A04.7 | Enterocolitis due to <i>Clostridium difficile</i> |
| A04.8 | Other specified bacterial intestinal infections |
| A04.9 | Bacterial intestinal infection, unspecified |
| B98.0 | <i>Helicobacter pylori</i> [<i>H.pylori</i>] as the cause of diseases classified to other chapters |

Meningitis

| | |
|-------|--------------------------------------|
| A39.0 | Meningococcal meningitis |
| A39.1 | Waterhouse-Friderichsen syndrome |
| A39.2 | Acute meningococcaemia |
| A39.3 | Chronic meningococcaemia |
| A39.4 | Meningococcaemia, unspecified |
| A39.5 | Meningococcal heart disease |
| A39.8 | Other meningococcal infections |
| A39.9 | Meningococcal infection, unspecified |

Sepsis

| | |
|---------|---|
| A40.0 | Sepsis due to streptococcus, group A |
| A40.1 | Sepsis due to streptococcus, group B |
| A40.2 | Sepsis due to streptococcus, group D |
| A40.3 | Sepsis due to <i>Streptococcus pneumoniae</i> |
| A40.8 | Other streptococcal sepsis |
| A40.9 | Streptococcal sepsis, unspecified |
| A41.0 | Sepsis due to <i>Staphylococcus aureus</i> |
| A41.1 | Sepsis due to other specified staphylococcus |
| A41.2 | Sepsis due to unspecified staphylococcus |
| A41.3 | Sepsis due to <i>Haemophilus influenzae</i> |
| A41.4 | Sepsis due to anaerobes |
| A41.5 | Sepsis due to other Gram-negative organisms |
| A41.8 | Other specified sepsis |
| A41.9 | Sepsis, unspecified |
| T81.44% | Sepsis following procedure |

| Genitourinary infections | |
|---------------------------------|---|
| N10 | Acute tubulo-interstitial nephritis |
| N11.0 | Nonobstructive reflux-associated chronic pyelonephritis |
| N11.1 | Chronic obstructive pyelonephritis |
| N11.8 | Other chronic tubulo-interstitial nephritis |
| N11.9 | Chronic tubulo-interstitial nephritis, unspecified |
| N12 | Tubulo-interstitial nephritis, not specified as acute or chronic |
| N16.0 | Renal tubulo-interstitial disorders in infectious and parasitic diseases classified elsewhere |
| N30.0 | Acute cystitis |
| N30.1 | Interstitial cystitis (chronic) |
| N30.2 | Other chronic cystitis |
| N30.3 | Trigonitis |
| N30.4 | Irradiation cystitis |
| N30.8 | Other cystitis |
| N30.9 | Cystitis, unspecified |
| N39.0 | Urinary tract infection, site not specified |
| Joint infection | |
| M00% | Pyogenic arthritis |
| M01% | Direct infections of joint in infectious and parasitic diseases classified elsewhere |
| M02% | Postinfective and reactive arthropathies |
| Skin infection | |
| B95.6% | Staphylococcus aureus as the cause of diseases classified elsewhere |
| L03.0% | Cellulitis and acute lymphangitis of finger and toe |
| L03.1% | Cellulitis and acute lymphangitis of other parts of limb |
| L03.2% | Cellulitis and acute lymphangitis of face and neck |
| L03.3% | Cellulitis and acute lymphangitis of trunk |
| L03.8% | Cellulitis and acute lymphangitis of other sites |
| L03.9% | Cellulitis and acute lymphangitis, unspecified |
| L08.8% | Other specified local infection of the skin and subcutaneous tissue |
| L08.9 | Local infection of the skin and subcutaneous tissue, unspec |

Supplementary Table S3: Orthopaedic surgery as indicated by OPCS-4 intervention and procedure codes from secondary care datasets

| OPCS-4 Code | OPCS-4 Term |
|--------------------|--|
| W37 | Monk total replacement of hip joint using cement |
| W370 | Convrs from cement tot hip rep Conversion from cemented total hip replacement |
| W371 | Primary cemented tot hip repl Primary cemented total hip replacement |
| W372 | Conv to cemented tot hip repl Conversion to cemented total hip replacement |
| W373 | Revison cemented total hip rep Revision cemented total hip replacement |
| W378 | Tot prosth repl hip + cem OS Total prosthetic replacement of hip joint using cement OS |
| W379 | Tot prosth repl hip + cem NOS Total prosthetic replacement of hip joint using cement NOS |
| W38 | Lord total hip replace no cem Lord total replacement of hip joint not using cement |
| W380 | Conv from uncement tot hip rep Conversion from uncemented total hip replacement |
| W381 | Pry uncmnt tot hip replacement Primary uncemented total hip replacement |
| W382 | Cnvrs to uncmnt tot hip rplcmn Conversion to uncemented total hip replacement |
| W383 | Revisn uncemented tot hip rep Revision uncemented total hip replacement |
| W388 | Tot prosth repl hip no cem OS Total prosthetic replacement hip joint not using cement OS |
| W389 | Tot prosth repl hip no cem NOS Total prosthetic replacement hip joint not using cement NOS |
| W39 | Other total prosth repl hip Other total prosthetic replacement of hip joint |
| W390 | Removal prev tot hip repl NEC Removal previous total prosthetic replacement hip joint NEC |
| W391 | Pry hybrid tot hip rplcmnt NEC Primary hybrid total hip replacement NEC |
| W392 | Cnvrs to hbrd tot hip rplc NEC Conversion to hybrid total hip replacement NEC |
| W393 | Revisn hybrid tot hip rep NEC Revision hybrid total hip replacement NEC |
| W394 | Attntn to tot hip rplcmnt NEC Attention to total hip replacement NEC |
| W398 | Total prosth repl hip OS Other specified total prosthetic replacement of hip joint |
| W399 | Total prosth repl hip NOS Total prosthetic replacement of hip joint NOS |
| W40 | Shiers total knee replacement Shiers total replacement of knee joint using cement |
| W40-W87 | Knee joint operations |
| W400 | Con from cemented tot knee rep Conversion from cemented total knee replacement |
| W401 | Pry cemented total knee replac Primary cemented total knee replacement |
| W402 | Conv to cemented tot knee repl Conversion to cemented total knee replacement |
| W403 | Revision cemented tot knee rep Revision cemented total knee replacement |
| W408 | Tot prosth repl knee + cem OS Total prosthetic replacement of knee joint using cement OS |
| W409 | Tot prosth repl knee + cem NOS Total prosthetic replacement of knee joint using cement NOS |
| W41 | Arthroplasty knee no cement Arthroplasty of knee joint not using cement |

| | | |
|----------------|---|---|
| W410 | Removal prv uncem tot knee rep replacement knee | Removal previous uncemented total prosthet replacement knee |
| W411 | Primary uncmnt tot knee repl | Primary uncemented total knee replacement |
| W412 | Cnvrs to uncmnt tot knee repl | Conversion to uncemented total knee replacement |
| W413 | Revision uncmnt tot knee repl | Revision uncemented total knee replacement |
| W418 | Tot pros repl knee no cem OS | Total prosthetic replacement knee joint not using cement OS |
| W419 | Tot pros repl knee no cem NOS | Total prosthetic replacement knee joint not using cement NOS |
| W42 | Other arthroplasty knee joint Other arthroplasty of knee joint | |
| W420 | Cnv fr hybrd tot knee repl NEC | Conversion from hybrid total knee replacement NEC |
| W421 | Pry hybrid tot knee repl NEC | Primary hybrid total knee replacement NEC |
| W422 | Con to hybrid tot knee rep NEC | Conversion to hybrid total knee replacement NEC |
| W423 | Revi hybrid tot knee repl NEC | Revision of hybrid total knee replacement NEC |
| W424 | Attention to tot knee repl NEC | Attention to total knee replacement NEC |
| W428 | Other tot prosth knee repl OS | Other total prosthetic replacement of knee joint OS |
| W429 | Other tot prosth knee rep NOS | Other total prosthetic replacement of knee joint NOS |
| W43 | Prosth cmntd tot shldr rplcmnt | Prosthetic cemented total shoulder replacement |
| W43-W45 | Elbow joint operations | |
| W43-W92 | Other joint operations | |
| W430 | Cnv fr cmnt tot shldr rplcmnt | Conversion from cemented total shoulder replacement |
| W431 | Pry cmntd tot shldr replcmnt | Primary cemented total shoulder replacement |
| W432 | Cnv to cmntd tot shldr rplcmn | Conversion to cemented total shoulder replacement |
| W433 | Rvsn cmntd tot shldr rplcmnt | Revision cemented total shoulder replacement |
| W438 | Tot pros repl oth joint+cem OS | Total prosthetic replacement of other joint using cement OS |
| W439 | Tot pr repl oth joint+cem NOS | Total prosthetic replacement of other joint using cement NOS |
| W44 | Prsth uncmnt tot shldr rplcmnt | Prosthetic uncemented total shoulder replacement |
| W440 | Cnv fr uncmnt tot shldr rplcm | Conversion from uncemented total shoulder replacement |
| W441 | Pry uncmnt tot shldr replcmnt | Primary uncemented total shoulder replacement |
| W442 | Cnv to uncmnt tot shldr rplcm | Conversion to uncemented total shoulder replacement |
| W443 | Rvsn uncmntd tot shldr rplcmnt | Revision uncemented total shoulder replacement |
| W448 | Other joint repl no cement OS | Other total prosthet replacem oth joint not using cement OS |
| W449 | Other joint repl no cement NOS | Other total prosthet replacem oth joint not using cement NOS |
| W45 | Prosth hybrid tot shldr rplcmn | Prosthetic hybrid total shoulder replacement |
| W450 | Cnv fr hybrid tot shldr rplcm | Conversion from hybrid total shoulder replacement |
| W451 | Pry hybrid tot shldr rplcmnt | Primary hybrid total shoulder replacement |
| W452 | Cnv to hybrd tot shldr rplcmn | Conversion to hybrid total shoulder replacement |
| W453 | Rvsn hybrid total shldr rplcmn | Revision hybrid total shoulder replacement |
| W454 | Atten tot prosth joint rep NEC | Attention to total prosthetic replacement of joint NEC |

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| W454/Y03 7 | Rem prosth joint (no replace) | Removal prosthesis from joint (no replacement) |
| W458 | Other tot prosth repl joint OS | Other specified other total prosthetic replacement of joint |
| W459 | Other tot prosth rep joint NOS | Other total prosthetic replacement of joint NOS |
| W46 | Austin-Moore hemiarthropl hip using cement | Austin - Moore hemiarthroplasty of hip joint |
| W460 | Removal prev cem repl hd femur replacement head femur | Removal previous cemented prosthetic |
| W461 | Pry cmntd hemiarthroplasty hip | Primary cemented hemiarthroplasty of hip |
| W462 | Cnvr to cmnt hemiarthrpls hip | Conversion to cemented hemiarthroplasty of hip |
| W463 | Rvsn cmntd hemiarthroplsty hip | Revision cemented hemiarthroplasty of hip |
| W468 | Oth sp prsth cmntd hemiart hip hemiarthroplasty of hip | Other specified prosthetic cemented |
| W469 | Prsth cmnt hemiarthrpl hip NOS | Prosthetic cemented hemiarthroplasty of hip |
| W47 | Prsth uncmnt hemiarthrpl hip | Prosthetic uncemented hemiarthroplasty of hip |
| W470 | Cnvr fr uncmnt hemiarthrpl hip hemiarthroplasty of hip | Conversion from uncemented |
| W471 | Pry uncmntd hemiarthropl hip | Primary uncemented hemiarthroplasty of hip |
| W472 | Cnvr to uncmnt hemiarthrp hip | Conversion to uncemented hemiarthroplasty of hip |
| W473 | Rvsn uncmnt hemiarthrpl hip | Revision uncemented hemiarthroplasty of hip |
| W478 | Other pros uncem hemiarthr hip hemiarthroplasty hip | Other specified prosthetic uncemented |
| W479 | Prsth uncmn hemiarthrp hip NOS | Prosthetic uncemented hemiarthroplasty of hip |
| W48 | Other arthroplasty head femur | Other arthroplasty of head of femur |
| W480 | Cnvr fr prev hemiarthr hip NEC of hip NEC | Conversion from previous hemiarthroplasty |
| W481 | Pry prosth hemiarthrpl hip NEC | Primary prosthetic hemiarthroplasty of hip |
| W482 | Cnvr to prsth hemiarth hip NEC | Conversion to prosthetic hemiarthroplasty of hip |
| W483 | Rvsn prsth hemiarthrpl hip NEC | Revision of prosthetic hemiarthroplasty of hip |
| W484 | Atn to prsth hemiarthr hip NEC | Attention to prosthetic hemiarthroplasty of hip |
| W488 | Oth sp oth prsth hemiarthr hip | Other specified other prosthetic hemiarthroplasty of hip |
| W489 | Oth prosth hemiarthrpl hip NOS | Other prosthetic hemiarthroplasty of hip NOS |
| W49 | Pros replacem head hum + cemnt using cement | Prosthetic replacement of head of humerus |
| W49-W51 | Shoulder joint operations | |
| W490 | Cnvrsn fr cmnt hemiarthr shldr of shoulder | Conversion from cemented hemiarthroplasty |
| W491 | Primary cmntd hemiarthr shldr shoulder | Primary cemented hemiarthroplasty of shoulder |

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| W492 | Cnvrs to cmntd hemiarthr shldr shoulder | Conversion to cemented hemiarthroplasty of shoulder |
| W493 | Rvsn cmntd hemiarthr shldr | Revision cemented hemiarthroplasty of shoulder |
| W498 | Oth spec cmntd hemiarthr shldr of shoulder | Other specified cemented hemiarthroplasty of shoulder |
| W499 | Prosth cmnt hemiarth shldr NOS shoulder NOS | Prosthetic cemented hemiarthroplasty of shoulder NOS |
| W50 | Prosth uncmntd hemiarthr shldr shoulder | Prosthetic uncemented hemiarthroplasty of shoulder |
| W500 | Cnvr fr uncmnt hemiarth shldr shoulder | Conversion from uncemented hemiarthroplasty of shoulder |
| W501 | Primary uncmnt hemiarthr shldr shoulder | Primary uncemented hemiarthroplasty of shoulder |
| W502 | Cnvr to uncmnt hemiarthr shldr of shoulder | Conversion to uncemented hemiarthroplasty of shoulder |
| W503 | Rvsn uncmntd hemiarthr shldr | Revision uncemented hemiarthroplasty of shoulder |
| W508 | Oth spec uncmnt hemiarth shldr hemiarthroplasty of shoulder | Other specified uncemented hemiarthroplasty of shoulder |
| W509 | Pros uncmntd hemiarth shldr NOS shoulder NOS | Prosthetic uncemented hemiarthroplasty of shoulder NOS |
| W51 | Other prosth repl head humerus humerus | Other prosthetic replacement of head of humerus |
| W510 | Conv from hyb hemrth shoul NEC shoulder NEC | Conversion from hemiarthroplasty of shoulder NEC |
| W511 | Prim hybr hemiarth should NEC NEC | Primary hybrid hemiarthroplasty of shoulder NEC |
| W512 | Conv-hybr hemiarth should NEC shoulder NEC | Conversion to hybrid hemiarthroplasty of shoulder NEC |
| W513 | Revis hyb hemiarth should NEC NEC | Revision hybrid hemiarthroplasty of shoulder NEC |
| W514 | Atten replace head humerus NEC of humerus NEC | Attention to prosthetic replacement of head of humerus NEC |
| W518 | Other prosth repl head hum OS humerus OS | Other prosthetic replacement of head of humerus OS |
| W519 | Oth prsth replcmnt hd hum NOS humerus NOS | Other prosthetic replacement of head of humerus NOS |
| W52 | Cmntd unicomprtmntl kn rplcmnt replacement | Cemented unicompartmental knee replacement |
| W520 | Cnvr fr cmnt unicomprt kn rplcm unicompartmental knee replacement | Conversion from cemented unicompartmental knee replacement |
| W521 | Pry cmntd unicomprtmn kn rplcmn replacement | Primary cemented unicompartmental knee replacement |
| W522 | Cnvr to cmnt unicompr kn rplcmn knee replacement | Conversion to cemented unicompartmental knee replacement |
| W523 | Rvsn cmnt unicomprtmn kn rplcmn replacement | Revision cemented unicompartmental knee replacement |
| W528 | Prosth repl oth artic + cem OS cement OS | Prosthetic replacement articulation oth bone using cement OS |
| W529 | Pros repl oth artic + cem NOS cement NOS | Prosthetic replacement articulation oth bone using cement NOS |

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| W53 | Uncmnt unicmprtmnt kn rplcmnt replacement | Uncemented unicompartmental knee |
| W530 | Cnvr fr uncmn unicmprt kn rplc unicompartmental knee replacement | Conversion from uncemented |
| W531 | Prmy uncmnt unicmprt kn rplcmn replacement | Primary uncemented unicompartmental knee |
| W532 | Cnvr to uncmn unicmprt kn rplc unicompartmental knee replacement | Conversion to uncemented |
| W533 | Rvsn uncmnt unicmprtm kn rplcm | Revision uncemented unicompartmental knee replacement |
| W538 | Prosth repl articul no cem OS | Prosthet replacement articulat oth bone not using cement OS |
| W539 | Prosth repl articul no cem NOS | Prosthet replacement articulat oth bone not using cement NOS |
| W54 | Hybrid unicmprtmnt kn rplcmnt | Hybrid unicompartmental knee replacement |
| W540 | Cnvr fr hybrd unicmprt kn rplc replacement | Conversion from hybrid unicompartmental knee |
| W541 | Pry hybrid unicmprtm kn rplcmn replacement | Primary hybrid unicompartmental knee |
| W542 | Cnvr to hybrd unicmpr kn rplcm replacement | Conversion to hybrid unicompartmental knee |
| W543 | Rvsn hybrd unicmprtmnt kn rplcm replacement | Revision hybrid unicompartmental knee |
| W544 | Atten repl articul bone NEC | Attention to prosthetic replacement of articulation NEC |
| W548 | Other repl artic oth bone OS | Other prosthetic replacement of articulation of oth bone OS |
| W549 | Other repl artic oth bone NOS | Other prosthetic replacement of articulation of oth bone NOS |
| W55 | Prosth interposit arthroplasty | Prosthetic interposition arthroplasty |
| W550 | Con proth intrpstn arthrpls arthroplasty | Conversion from previous prosth interposition |
| W551 | Pry proth interpstn arthrplsty | Primary prosthetic interposition arthroplasty |
| W552 | Rvsn proth interpstn arthrpls | Revision of prosthetic interposition arthroplasty |
| W553 | Cnvr to prth intrpstn arthrpls | Conversion to prosthetic interposition arthroplasty |
| W554 | Atn prth intrpstn arthrpls NEC | Attention to prosthetic interposition arthroplasty NEC |
| W558 | Oth sp prth intrpstn arthrpls | Other specified prosthetic interposition arthroplasty |
| W559 | Proth intrpstn arthroplast NOS | Prosthetic interposition arthroplasty NOS |
| W56 | Other interposit arthroplasty | Other interposition arthroplasty |
| W560 | Con prev intrpstn arthrpls NEC | Conversion from previous interposition arthroplasty NEC |
| W561 | Prim interpos arth MTP joint NEC | Primary interposit arthroplasty metatarsophalang joint NEC |
| W562 | Pry interpstn arthroplasty NEC | Primary interposition arthroplasty NEC |
| W563 | Rvsn of intrpstn arthrplst NEC | Revision of interposition arthroplasty NEC |
| W564 | Cnvr to intrpstn arthrplst NEC | Conversion to interposition arthroplasty NEC |
| W568 | Oth sp interpstn recnstrctn jt | Other specified interposition reconstruction of joint |
| W569 | Interposit reconstr joint NOS | Interposition reconstruction of joint NOS |

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| W57 | Excision arthroplasty | |
| W570 | Cnvr fr prev excsn arthroplsty | Conversion from previous excision arthroplasty |
| W571 | Prim exc arthropl 1st MTP join | Primary excision arthroplasty 1st metatarsophalangeal joint |
| W572 | Pry excision arthroplasty NEC | Primary excision arthroplasty NEC |
| W572/Z84 | Excision arthroplasty of hip | |
| 3 | | |
| W573 | Rvsn of excision arthroplasty | Revision of excision arthroplasty |
| W574 | Cnvrsn to excisn arthroplasty | Conversion to excision arthroplasty |
| W578 | Oth sp excsn reconstrctn of jt | Other specified excision reconstruction of joint |
| W579 | Exc reconstruction joint NOS | Excision reconstruction of joint NOS |
| W58 | Other arthroplasty | |
| W580 | Conv fr prev resurf arthroplas | Conversion from previous resurfacing arthroplasty of joint |
| W581 | Prim resurfacing arthroplasty | Primary resurfacing arthroplasty of joint |
| W582 | Rvsn of resurfcng arthroplasty | Revision of resurfacing arthroplasty |
| W588 | Reconstruct joint c free flap | Reconstruction of joint with free flap |
| W589 | Other reconstruction joint NOS | Other reconstruction of joint NOS |
| W59 | Fusion of other toe joint | |
| W59 -W79 | Foot joint operations | |
| W591 | Pry arthrodesis 1st MTPJ & rep MTPJ | Primary arthrodesis 1st MTPJ & replace lesser MTPJ |
| W592 | Pry arthrodesis 1st MTPJ & exc lesser MTPJ | Primary arthrodesis 1st MTPJ & excision lesser MTPJ |
| W593 | Fusion of first MTP joint | Fusion of first metatarsophalangeal joint of toe |
| W594 | Pry arthrdsis IPJ great toe | Primary arthrodesis interphalangeal joint of great toe |
| W595 | Pry arthrdsis IPJ oth toe NEC | Primary arthrodesis of interphalangeal joint other toe NEC |
| W596 | Revision arthrdsis toe joint | Revision arthrodesis of toe joint |
| W598 | Fusion of first MTP joint OS | Other specified fusion of first metatarsophalangeal joint |
| W599 | Fusion of other toe joint NOS | |
| W60 | Fuse joint extraart bone graft | Fusion of other joint and extraarticular bone graft |
| W600 | Cnvrs fr extrartic arthrod NEC | Conversion from extraarticular arthrodesis NEC |
| W601 | Pry extraart arthrodsis NEC | Primary extraarticular arthrodesis of joint NEC |
| W602 | Rvsn extrartic arthrodesis NEC | Revision extraarticular arthrodesis NEC |
| W603 | Conv to extrartic arthrodsis NEC | Conversion to extraarticular arthrodesis NEC |
| W608 | Fuse joint & extraart graft OS | Fusion of joint and extraarticular bone graft OS |
| W609 | Fuse joint & extraart graf NOS | Fusion of joint and extraarticular bone graft NOS |
| W61 | Other fuse joint & artic graft | Fusion of other joint and other articular bone graft |
| W610 | Cnv fr prev intraart arthrdsis | Conversion from previous intraarticular arthrodesis |
| W611 | Prim arthrod & artic graft NEC | Primary arthrodesis and articular bone graft NEC |
| W612 | Rev arthrod & artic graft NEC | Revision of arthrodesis and articular bone graft NEC |
| W613 | Conv to arthrod artic graf NEC | Conversion to arthrodesis and articular bone graft NEC |
| W618 | Fuse joint & artic graft OS | Other specified fusion of joint and articular bone graft |
| W619 | Fuse joint & artic graft NOS | Fusion of joint and articular bone graft NOS |
| W62 | Other primary fusion of joint | |
| W621 | Prim arthrodes & int fixat NEC | Primary arthrodesis and internal fixation of joint NEC |
| W622 | Prim arthrodes & ext fixat NEC | Primary arthrodesis and external fixation of joint NEC |
| W628 | Other primary arthrodesis OS | Other specified other primary fusion of joint |

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| W629 | Simple arthrodesis | |
| W63 | Revisional fusion of joint | |
| W631 | Revis arthrodes int fixat NEC | Revision of arthrodesis and internal fixation NEC |
| W632 | Revis arthrodes ext fixat NEC | Revision of arthrodesis and external fixation NEC |
| W638 | Revisional fusion of joint OS | Other specified revisional fusion of joint |
| W639 | Revision of arthrodesis NEC | |
| W64 | Conversion to arthrodesis NEC | |
| W640 | Conversion from prev arthrodes | Conversion from previous arthrodesis NEC |
| W641 | Conv to arthrod & int fix NEC | Conversion to arthrodesis and internal fixation NEC |
| W642 | Conv to arthrod & ext fix NEC | Conversion to arthrodesis and external fixation NEC |
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| V22 | Prim decompress cervical spine | Primary decompression operation on cervical spine |
| V22-V54 | Cerv and thorac spine ops OS | Other specified operations on cervical or thoracic spine |
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| V221 | Pry ant dcmpr cx spn crd+fsn | Primary ant decompression of cervical spinal cord+fusion |
| V222 | Pry ant dcmprs cx spn crd NEC | Primary anterior decompression of cervical spinal cord NEC |
| V223 | Prim foraminotomy cerv spine | Primary foraminotomy of cervical spine |
| | | |
| V228 | Prmry post decomprsn cerv cord | Primary posterior decompression cervical cord |
| V229 | Prim decomp cervical spine NOS | Primary decompression operation on cervical spine NOS |
| V23 | Revis decomp cervical spine | Revisional decompression operations on cervical spine |
| V231 | Rev ant dcmpr crv sp crd+fsn | Revisional ant decompression op cervicl spinal cord+fusion |
| V232 | Rev ant decomp cerv cord NEC | Revisional anterior decompression cervical spinal cord NEC |
| V233 | Revis foraminotomy cerv spine | Revisional foraminotomy of cervical spine |
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| V238 | Rev post decomprsn cerv cord | Revision posterior decompression cervical cord |
| V239 | Rev decomp cervical spine NOS | Revisional decompression of cervical spine NOS |
| V24 | Decompress thoracic spine NEC | Decompression of thoracic spine NEC |
| V241 | Prim decompr fusion thor spine | Primary decompress thoracic spinal cord fusion thorac spine |
| V242 | Prim decompress thor spine NEC | Primary decompression of thoracic spine NEC |

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| V243 | Rvsnal post decomprs thor dsc | Revisonal posterior decompression of thoracic disc |
| V248 | Decompression thorac spine OS | Other specified decompression of thoracic spine |
| V249 | Prmry post decompr thorac disc disc | Primary posterior decompression of thoracic disc |
| V25 | Primary decomp lumbar spine op lumbar spine | Primary decompression operations on lumbar spine |
| V25-V39 | Lumbar spinal cord operations | |
| V25-V54 | Lumbar spine operations OS | Other specified operations on lumbar spine |
| V251 | Pry extn pst dcmprs lmb sp+fsn spine and fusion | Primary extndd post decompression lumbar spine and fusion |
| V252 | Pry extnd pst dcmpr lmb sp NEC lumbar spine NEC | Primary extended posterior decompression lumbar spine NEC |
| V253 | Prmy post dcmprsn lmb spn+fsn spine and fusion | Primary posterior decompression lumbar spine and fusion |
| V254 | Prmy post dcmprsn lmb spine | Primary posterior decompression lumbar spine |
| V255 | Prim post decompr LS cord NEC spinal cord NEC | Primary posterior decompression of lumbar spinal cord NEC |
| V256 | Prmy foraminotomy lmb spine | Primary foraminotomy of lumbar spine |
| V258 | Prim decompr op lumb spine OS spine OS | Primary decompression operation on lumbar spine OS |
| V259 | Prim decompr op lumb spine NOS spine NOS | Primary decompression operation on lumbar spine NOS |
| V26 | Revis decompr ops lumbar spine lumbar spine | Revisonal decompression operations on lumbar spine |
| V261 | Rev extnd pst dcmpr lmb sp+fsn spine and fusion | Revision extndd post decompression lumbar spine and fusion |
| V262 | Rev extnd pst dcmpr lmb sp NEC lumbar spine NEC | Revision extended posterior decompression lumbar spine NEC |
| V263 | Rvsn post dcmprsn lmb spn+fsn spine and fusion | Revision posterior decompression lumbar spine and fusion |
| V264 | Rvsn post dcmprsn lmb spine | Revision posterior decompression lumbar spine |
| V265 | Revis post decomp LS cord NEC spinal cord NEC | Revisonal posterior decompression of lumbar spinal cord NEC |
| V266 | Rvsnal foraminotomy lmb spine | Revisonal foraminotomy of lumbar spine |
| V268 | Revis decompr op lumbar sp OS lumbar spine OS | Revisonal decompression operation on lumbar spine OS |
| V269 | Revis decompr op lumb sp NOS lumbar spine NOS | Revisonal decompression operation on lumbar spine NOS |
| V27 | Decompress unspecified spine spine | Decompression operations on unspecified spine |
| V27-V54 | Oth spine operations,site unsp | Other spine operations, site unspecified |

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| V271 | Prim decomp sp cord & fuse NEC | Primary decompression of spinal cord & fusion spine jnt NEC |
| V272 | Prim decompr spinal cord NEC | Primary decompression of spinal cord NEC |
| V273 | Revis decompr spinal cord NEC | Revisional decompression of spinal cord NEC |
| V278 | Decompression of spine OS | Other specified decompression of spine |
| V279 | Decompression of spine NOS | |
| V29 | Primary excis cervical IV disc | Primary excision of cervical intervertebral disc |
| V29-V54 | Cerv+thoracic spine ops | Cervical and thoracic spine operations |
| V291 | Pry laminect excis cerv IV disc | Primary laminectomy excision of cervical intervert disc |
| V292 | 1st hemilaminect cerv IV disc | Primary hemilaminectomy excision of cervical IV disc |
| V293 | 1st fenestration cerv IV disc | Primary fenestration excision of cervical intervert disc |
| V294 | Badgeley ant fusion cerv spine | Badgeley anterior fusion of cervical spine |
| V295 | 1st ant excis cervic disc NEC | Primary anterior excision of cervical intervertebr disc NEC |
| V296 | 1st cervical microdiscectomy | Primary microdiscectomy of cervical intervertebral disc |
| V298 | Primary excis cervical disc OS | Primary excision of cervical intervertebral disc OS |
| V299 | 1st post exc cervical IV disc | Primary posterior excision of cervical intervertebral disc |
| V30 | Revis cervical disc excis ops | Revisional excision of cervical intervertebral disc ops |
| V301 | Revis laminect exc cerv IV disc | Revisional laminectomy excision of cervical intervert disc |
| V302 | Rev hemilaminect exc cerv disc | Revisional hemilaminectomy excision cervical intervert disc |
| V303 | Rev fenestration exc cerv disc | Revisional fenestration excision of cervical intervert disc |
| V304 | Rvsn ant excsn cerv disc+fusn | Revision anterior excision cervical disc and fusion |
| V305 | Revis ant excis cerv disc NEC | Revisional anterior excision cervical intervert disc NEC |
| V306 | Revis cervical microdiscectomy | Revisional microdiscectomy of cervical intervertebral disc |
| V308 | Revis post excis cerv disc NEC | Revisional posterior excision of cervical intervert disc NEC |
| V309 | Revis cervic IV disc excis NOS | Revisional excision of cervical intervertebral disc NOS |
| V31 | Excision of thoracic disc NEC | Excision of thoracic intervertebral disc NEC |

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| V311 | Prmry ant excsn thor disc+fsn | Primary anterior excision thoracic disc and fusion |
| V312 | Prim ant/lat exc thor disc NEC | Primary anterolateral excision thoracic intervert disc NEC |
| V313 | Prim costotransversect th disc | Primary costotransversectomy of thoracic intervertebral disc |
| V318 | Prim excis thoracic disc OS | Primary excision of thoracic intervertebral disc OS |
| V319 | Prim excis thoracic disc NOS | Primary excision of thoracic intervertebral disc NOS |
| V32 | Rvsn excs thr intrvrt dsc NEC | Revisional excision of thoracic intervertebral disc NEC |
| V321 | Rvsn ant excsn thor disc+fsn | Revision anterior excision thoracic disc and fusion |
| V322 | Rev AL excis thoracic disc NEC | Revisional anterolateral excision thorac intervert disc NEC |
| V323 | Rev costotransversect thor disc | Revisional costotransversectomy thoracic intervertebral disc |
| V328 | Rvsn decomprs+fsn thorac spn | Revision decompression and fusion thoracic spine |
| V329 | Revis excis thoracic disc NOS | Revisional excision thoracic intervertebral disc NOS |
| V33 | Primary lumbar discectomy | |
| V331 | Prim laminect exc lumbar disc | Primary laminectomy excision of lumbar intervertebral disc |
| V332 | Prim fenestration lumbar disc | Primary fenestration of lumbar intervertebral disc |
| V333 | Prmy ant exc lmbd disc+fusion | Primary anterior excision of lumbar disc and fusion |
| V334 | Prmy ant exc lmbd disc NEC | Primary anterior excision of lumbar disc NEC |
| V335 | Prmy ant exc lmbd dsc+pst fsn | Primary anterior excision of lumbar disc and posterior fusion |
| V336 | Pry ant exc lmb dsc+pst instrm | Primary ant excision lumbar disc+post instrumentation |
| V337 | Primary lumbar microdiscectomy | |
| V338 | Prmy post excision lumbar disc | Primary posterior excision of lumbar disc |
| V339 | Primary lumbar discectomy NOS | Primary excision of lumbar intervertebral disc NOS |
| V34 | Revisional lumbar discectomy | |
| V341 | Revis laminect exc lumbar disc | Revisional laminectomy excision of lumbar intervert disc |
| V342 | Revis fenestr exc lumbar disc | Revisional fenestration excision of lumbar intervert disc |
| V343 | Rvsn ant exc lmbd disc+fusion | Revisional anterior excision of lumbar disc and fusion |

V344 Rvsn ant excisn lmbd disc NEC Revisional anterior excision of lumbar disc NEC

V345 Rvs ant excs lmbd dsc+pst fusn Revisional anterior excision of lumbar disc and post fusion

V346 Rev ant excs lmbd dsc+pst instr Revisional anterior excision lumbar disc + post instrument

V347 Rvsnl lmbd microdiscectomy Revisional lumbar microdiscectomy

V348 Rvsnl post excsn lmbd disc Revisional posterior excision of lumbar disc

V349 Revision lumbar discectomy NOS Revisional excision of lumbar intervertebral disc NOS

V35 Excis intervertebral disc NEC Excision of intervertebral disc NEC

V351 Primary excision IV disc NEC Primary excision of intervertebral disc NEC

V352 Revision excision IV disc NEC Revisional excision of intervertebral disc NEC

V358 Percutaneous discectomy

V359 Excision intervertebr disc NOS Excision of intervertebral disc NOS

V359/Y081 Laser discectomy

V37 Prim fusion cervical spine jnt Primary fusion of joint of cervical spine

V371 Brooks fuse atlantoaxial joint Brooks fusion of atlantoaxial joint

V372 Post fusion joint cx spine NEC Posterior fusion of joint of cervical spine NEC

V373 Transoral fuse atlantoax joint Transoral fusion of atlantoaxial joint

V374 Fusion of atlantooccipital jnt Fusion of atlantooccipital joint

V378 Fusion atlantoaxial joint NEC Fusion of atlantoaxial joint NEC

V379 Cervic spine joint fusion NOS Fusion of joint of cervical spine NOS

V38 Oth prim fusion joint lumb sp Other primary fusion of joint of lumbar spine

V381 Prmry post fusion thorac spine Primary posterior fusion of thoracic spine

V382 Prmry post fusn lmbd spine Primary posterior fusion of lumbar spine

V383 Wiltse posterior fusion spine Wiltse posterior fusion of spine

V384 Pry intrtrns fusn lmbd spn NEC Primary intertransverse fusion lumbar spine NEC

V388 Primrposterolat fusn lmbd spn Primary posterolateral fusion lumbar spine

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| V389 | Prim fusion lumbar spine NOS | Primary fusion of joint of lumbar spine NOS |
| V39 | Other revision lumbar fusion | Other revisional fusion of joint of lumbar spine |
| V391 | Revisnal fusion cerv spine | Revisional fusion of cervical spine |
| V392 | Revis post fusion thorac spine | Revisional posterior fusion of joint of thoracic spine |
| V393 | Rvsn post fusrn intrlam lmb sp | Revision posterior interlaminar fusion of lumbar spine |
| V394 | Revis post lumbar fusion NEC | Revisional posterior fusion of joint of lumbar spine NEC |
| V395 | Rvs intrtrnsv fsn lmb spn NEC | Revision intertransverse fusion of lumbar spine NEC |
| V398 | Rvsn posterolat fusrn lmb spne | Revision posterolateral fusion lumbar spine |
| V399 | Revision of lumbar fusion NOS | |
| V41 | Crct spn defrm+instrmntn | Correction of spinal deformity and instrumentation |
| V411 | Knodt spinal distraction rod | Posterior attachment Knodt spinal distraction rod to spine |
| V412 | Crct spn defrm+ant instrmntn | Correction of spinal deformity and anterior instrumentation |
| V413 | Removal Crctal spn instrmntn | Removal correctional spinal instrumentation |
| V418 | Crct spn dfrm+instr+ped fxn sy | Crctn spn deform+instrumnt with pedicular fixation system |
| V419 | Instrumental cor def spine NOS | Instrumental correction deformity of spine NOS |
| V42 | Other corr deformity spine | Other correction of deformity of spine |
| V421 | Excision of rib hump | |
| V422 | Epiphysiodesis of spine | Epiphysiodesis of spine - deformity correction |
| V423 | Antrolat release spn defrm+gft | Anterolateral release of spinal deformity and graft |
| V428 | Other corr deformity spine OS Other specified correction of deformity of spine | |
| V429 | Other corr deformity spine NOS | Correction of deformity of spine NOS |
| V43 | Extirpation spine lesion NEC | Extirpation of lesion of spine NEC |
| V431 | Excis lesion cervical vertebra | Excision of lesion of cervical vertebra |
| V432 | Excis lesion thoracic vertebra | Excision of lesion of thoracic vertebra |
| V433 | Excis lesion lumbar vertebra | Excision of lesion of lumbar vertebra |

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| V438 | Gill excis spondylolisthesis | Gill excision of spondylolisthesis |
| V439 | Excision lesion of spine NEC | Excision of lesion of spine NEC |
| V44 | Spine fracture decompression Decompression of fracture of spine | |
| V441 | Complex decompress # spine | Complex decompression of fracture of spine |
| V442 | Anterior decompression # spine | Anterior decompression of fracture of spine |
| V443 | Posterior decompress # spine | Posterior decompression of fracture of spine |
| V448 | Spine fracture decompress OS | Other specified decompression of fracture of spine |
| V449 | Spine fracture decompress NOS | Decompression of fracture of spine NOS |
| V45 | Other spine fracture reduction Other reduction of fracture of spine | |
| V451 | Open reduct exc facet # spine | Open reduction of fracture of spine & excis facet of spine |
| V452 | Open reduction # spine NEC | Open reduction of fracture of spine NEC |
| V453 | Manipulative reduction # spine | Manipulative reduction of fracture of spine |
| V458 | Spinal extension traction # | Spinal extension traction for fracture of spine |
| V459 | Other spine fracture reduc NOS | Other reduction of fracture of spine NOS |
| V46 | Fixation of fracture of spine | |
| V461 | Pry opn red spn #+int fix+plte | Primary open reduc spinal fracture+internal fix+plate |
| V462 | Fixat # spine Harrington rod | Fixation of fracture of spine using Harrington rod |
| V463 | Pry opn red spn #+int fix+wire | Primary open reduc spinal fracture+internal fix+wire |
| V464 | Halo skull traction # spine | Halo skull traction for fracture of spine |
| V468 | Pry op rd sp #+int fix+seg wre system | Primary open reduc spinal #+intern fix+segmental wire system |
| V469 | Fixation spine fracture NOS | Fixation of fracture of spine NOS |
| V52 | Other intervertebral disc ops Other operations on intervertebral disc | |
| V521 | Enzyme destruct intervert disc | Enzyme destruction of intervertebral disc |
| V522 | Destruction of disc NEC | Destruction of intervertebral disc NEC |

| | | |
|----------------|--|--|
| V523 | Discography intervert disc | Discography of intervertebral disc |
| V524 | Prim ant/lat biops thorac disc | Primary anterolateral biopsy of thoracic intervertebral disc |
| V528 | Other intervert disc op OS | Other specified operation on intervertebral disc |
| V529 | Other intervert disc op NOS | Operation on intervertebral disc NOS |
| V54 | Other ops on spine & vertebra | Other ops on spine and vertebra |
| V541 | Transoral excisn odontoid peg | Transoral excision of odontoid peg |
| V542 | Graft of bone to spine NEC | |
| V543 | Osteotomy of spine NEC | |
| V544 | Injection into paraspinal area | |
| V548 | Primary thoracic spine op | Primary operation on thoracic spine |
| V549 | Primary thoracic spine op NOS | Primary operation on thoracic spine NOS |
| W01 | Complex reconstruction thumb | Complex reconstruction of thumb |
| W01-W05 | Complex reconstruct hand+foot and foot | Complex reconstruction operations on hand |
| W01-W92 | Other bone & joint operations | Other bone and joint operations |
| W011 | Microvasc transf toe to thumb | Microvascular transfer of toe to thumb |
| W012 | Pollicisation of finger | |
| W013 | Thmb rcn usng bne grft+skn flp skin flap | Thumb reconstruction using bone graft and skin flap |
| W014 | Thmb recon usng bne lngth proc lengthening procedure | Thumb reconstruction using bone lengthening procedure |
| W015 | Opponensplasty thumb | |
| W018 | Free phalangeal transfer thumb | Free phalangeal transfer to thumb |
| W019 | Complex reconstruct thumb NOS | Complex reconstruction of thumb NOS |
| W02 | Other complex reconstr of hand | Other complex reconstruction of hand |
| W021 | Proximal row carpectomy | |
| W022 | Metacarpal supp op on carpus | Metacarpal support operation on carpus |
| W023 | Multiple jnt reconstr hand NEC | Multiple joint reconstruction of hand NEC |

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|------------|--|--|
| W024 | Cmplx soft tiss recons hnd NEC | Complex soft tissue reconstruction in hand NEC |
| W028 | Reconstruction hand local flap | Reconstruction of hand with local flap |
| W029 | Other complex reconst hand NOS | Other complex reconstruction of hand NOS |
| W03 | Complex reconstr of forefoot Complex reconstruction of forefoot | |
| W031 | Kessel reconstruction forefoot | Kessel reconstruction of forefoot |
| W032 | Helal metatarsal osteotomy | |
| W033 | Total correction of claw toe | |
| W034 | Robert Jones proced great toe | Robert Jones procedure great toe |
| W035 | Fusion joints mid & forefoot | Localised fusion of joints of midfoot and forefoot |
| W038 | Correction of metatarsus varus | |
| W039 | Complex reconstr forefoot NOS | Complex reconstruction of forefoot NOS |
| W04 | Complex reconstr of hindfoot Complex reconstruction of hindfoot | |
| W041 | Local fusion hindfoot joints | Localised fusion of joints of hindfoot |
| W042 | Dunn triple fusion of foot | |
| W043 | Goldthwait hindfoot stabilise | Goldthwait stabilisation of hindfoot |
| W044 | Muscle strip from os calcis | Stripping of muscle from os calcis |
| W045 | Exc lat wedge & fusion os calc | Rel medial soft tiss hindfoot & exc lat wedge fusion os calc |
| W048 | Articular fusion subtalar jnt | Articular fusion subtalar joint |
| W049 | Complex reconstr hindfoot NOS | Complex reconstruction of hindfoot NOS |
| W05 | Prosthetic replacement of bone | |
| W051 | Articul prosthet replace bone | Articulated prosthetic replacement of bone |
| W058 | Prosthet replacement bone OS | Other specified prosthetic replacement of bone |
| W059 | Prosthet replacement bone NOS | Prosthetic replacement of bone NOS |
| W06 | Excision of entire bone | |
| W06-W36 | Bone operations | |

| | | |
|------------|---------------------------------|---|
| W061 | Total excision of cervical rib | |
| W062 | Total excision of rib NEC | |
| W063 | Total excision of patella | |
| W064 | Total excision of sesamoid NEC | Total excision of sesamoid bone NEC |
| W065 | Talectomy | |
| W066 | Total excision of coccyx | |
| W068 | Total excision of bone OS | Other specified total excision of bone |
| W069 | Ostectomy NEC | |
| W069+W059 | Tot excis & prosthet rep bone | Total excision of bone and prosthetic replacement for bone |
| W07 | Excision of ectopic bone | |
| W071 | Excision of cross union bone | Excision of cross union of bone |
| W072 | Excis periartic ectopic bone | Excision of periarticular ectopic bone |
| W073 | Excis intramusc ectopic bone | Excision of intramuscular ectopic bone |
| W078 | Excision of ectopic bone OS | Other specified excision of ectopic bone |
| W079 | Excision of ectopic bone NOS | |
| W08 | Other excision of bone | |
| W081 | Excision of tuberosity of bone | |
| W082 | Excision of overgrowth of bone | |
| W083 | Excision of bony excrescence | Excision of excrescence of bone |
| W084 | Excision of fragment of bone | |
| W085 | Excision metatarsal head NEC | Excision of head of metatarsal bone NEC |
| W085+Z814 | Rttr cuff dcomp-opn acrmplsty | Rotator cuff decompression - open acromioplasty |
| W088 | Excision of synostosis | |
| W089 | Other excision of bone NOS | Excision of bone NOS |
| W089+W051 | Excis bone & art pros rep NEC | Excision of bone and articulated prosthetic replacement NEC |

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|------------|---|--|
| W089+W059 | Excis bone & prosth repl NEC | Excision of bone and prosthetic replacement NEC |
| W089+W329 | Excis bone & bone graft HFQ | Excision of bone and bone graft however further qualified |
| W09 | Extirpation of lesion of bone | |
| W091 | Excision of lesion of bone | |
| W092 | Curett bone lesion & graft HFQ | Curettage of lesion of bone and graft HFQ |
| W093 | Curettage lesion of bone NEC | Curettage of lesion of bone NEC |
| W094 | Destructn lesion of bone NEC | Destruction of lesion of bone NEC |
| W098 | Cryoablation of bone lesion | |
| W099 | Extirpation bone lesion NOS | Extirpation of lesion of bone NOS |
| W10 | Open osteoclasia | |
| W101 | Op osteocl ang cor int fix HFQ | Open osteoclasia, angular correction & internal fixation HFQ |
| W102 | Op osteocl ang cor ext fix HFQ | Open osteoclasia angular correction & external fixation HFQ |
| W103 | Angulatory osteotomy NEC | |
| W104 | Open osteoclasia & int fix NEC | Open osteoclasia and internal fixation NEC |
| W105 | Open osteoclasia+ext fxtn NEC | Open osteoclasia and external fixation NEC |
| W108 | Rotational osteotomy | |
| W109 | Open surg fracture NOS | Open surgical fracture of bone NOS |
| W11 | Other surgical bone fracture Other surgical fracture of bone | |
| W111 | Closed osteoclasia | |
| W118 | Other surg fracture of bone OS | Other specified other surgical fracture of bone |
| W119 | Other surg fracture bone NOS | Other surgical fracture of bone NOS |
| W12 | Angulation periartic osteotomy | Angulation periarticular osteotomy |
| W121 | Bios ang peri ost int fix HFQ | Biosseus angulation periarticul osteotomy & int fixation HFQ |
| W122 | Ang peri osteot & int fix NEC | Angulation periarticular osteotomy and internal fixation NEC |
| W123 | Bios ang peri ost ext fix HFQ | Biosseus angulation periarticul osteotomy & ext fixation HFQ |

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| W124 | Ang peri osteot & ext fix NEC | Angulation periarticular osteotomy and external fixation NEC |
| W125 | Biosseus ang peri osteot NEC | Biosseus angulation periarticular osteotomy NEC |
| W128 | Akin's osteotomy | |
| W129 | Angulat periartic osteot NOS | Angulation periarticular division of bone NOS |
| W13 | Other periarticular osteotomy | |
| W131 | Rotation periarticular osteot | Rotation periarticular osteotomy |
| W132 | Displacement osteotomy | |
| W133 | Cuneiform osteotomy | |
| W138 | Other periarticular osteot OS | Other specified other periarticular division of bone |
| W139 | Other periarticular osteot NOS | Other periarticular division of bone NOS |
| W14 | Diaphyseal division of bone | |
| W141 | Ang diaph osteot & int fix HFQ | Angulation diaphyseal osteotomy and internal fixation HFQ |
| W142 | Ang diaph osteot & ext fix HFQ | Angulation diaphyseal osteotomy and external fixation HFQ |
| W143 | Angulation diaphys osteot NEC | Angulation diaphyseal osteotomy NEC |
| W144 | Rotat diaph ost & int fix HFQ | Rotation diaphyseal osteotomy and internal fixation HFQ |
| W145 | Rotat diaph ost & ext fix HFQ | Rotation diaphyseal osteotomy and external fixation HFQ |
| W146 | Rotation diaphys osteotomy NEC | Rotation diaphyseal osteotomy NEC |
| W148 | Diaphyseal division of bone OS | Other specified diaphyseal division of bone |
| W149 | Diaphyseal division bone NOS | Diaphyseal division of bone NOS |
| W15 | Osteotomy of bone of foot | |
| W151 | Mitchell hallux valgus osteot | Mitchell osteotomy for hallux valgus |
| W152 | Golden hallux valgus operation | Golden osteotomy base 1st metatarsal bone for hallux valgus |
| W153 | Hallux valgus osteotomy NEC | |
| W154 | Osteotomy head metatarsal | Osteotomy of head of metatarsal |
| W155 | Osteotomy of midfoot tarsal | |

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|------------|---------------------------------|--|
| W158 | Oth spec osteotomy foot bone | Other specified osteotomy of bone of foot |
| W159 | Osteotomy of bone of foot NOS | |
| W16 | Other division of bone | |
| W161 | Multip osteot & int fix HFQ | Multiple osteotomy and internal fixation HFQ |
| W162 | Multip osteot & ext fix HFQ | Multiple osteotomy and external fixation HFQ |
| W163 | Multiple osteotomy NEC | |
| W164 | Intrn fixation of osteotomy NEC | Internal fixation of osteotomy NEC |
| W165 | Extrn fixation of osteotomy NEC | External fixation of osteotomy NEC |
| W168 | Other division of bone OS | Other specified other division of bone |
| W169 | Osteotomy NEC | |

Supplementary Table S4: SAIL Databank sources for cohort data

| | Rheumatology clinic data | Primary care data | Secondary care data | Office National Statistics Death Dataset |
|---|-----------------------------|-------------------------|---------------------------|--|
| Gender | | ✓ | | |
| Age | | ✓ | | |
| BMI | | ✓ | | |
| Social deprivation quintile | | ✓ | | |
| Smoker | | ✓ | | |
| Alcohol drinker | | ✓ | | |
| RA codes | ✓ | ✓ | | |
| AS codes | ✓ | ✓ | | |
| PsA codes | ✓ | ✓ | | |
| DMARDs | | ✓ | | |
| Biologic agents | ✓ | | | |
| Rheumatology clinic location | ✓ | | | |
| GP visit counts | | ✓ | | |
| Hyperlipidemia | | ✓ | | |
| Hypertension | | ✓ | | |
| Diabetes | | ✓ | | |
| Cardiovascular disease | | ✓ | | |
| Hospitalised with serious infections | | | ✓ | |
| Orthopaedic surgery | | | ✓ | |
| Disability payments | | ✓ | | |
| Sick notes issued | | ✓ | | |
| Date of death | | | | ✓ |

Supplementary Table S5: Univariate analysis for inclusion of significant candidate variables associated with commencing biologic treatment from diagnosis in AS patients to be incorporated into a cox proportional hazard model.

| | Hazard ratio | 95% CI |
|-------------------------------------|--------------|---------------|
| Female | 1.15 | 0.83 to 1.59 |
| Age at diagnosis | 0.99 | 0.98 to 0.99* |
| Social deprivation quintile | 0.96 | 0.87 to 1.07 |
| BMI | 1.02 | 0.99 to 1.05 |
| Alcohol drinker | 1.06 | 0.69 to 1.63 |
| Smoker | 0.88 | 0.56 to 1.40 |
| Orthopaedic surgery | 0.89 | 0.22 to 3.60 |
| Hospitalised for serious infections | 1.26 | 0.86 to 1.83 |
| Disease activity score (DAS 28) | 1.00 | 0.63 to 1.59 |
| Existing diabetes | 1.35 | 0.88 to 2.10 |
| Existing cardiovascular disease | 0.98 | 0.57 to 1.70 |
| Existing hyperlipidemia | 1.03 | 0.58 to 1.80 |
| Existing hypertension | 1.00 | 0.72 to 1.39 |
| Number of NSAIDs pre-biologic | 1.24 | 1.20 to 1.28* |
| Number of DMARDs pre-biologic | 1.48 | 1.39 to 1.57* |
| DLA/PIP pre-biologic | 5.91* | 4.39 to 7.95* |
| Sick-notes issued pre-biologic | 3.81 | 2.82 to 5.14* |
| GP visits pre-diagnosis | 1.00 | 1.00 to 1.00 |
| GP visits post-diagnosis | 1.00 | 0.99 to 1.00 |
| GP visits pre-biologic | 1.00 | 1.0 o 1.00 |

* $p < 0.05$

Final Model (factors that remained significant):

Sick-notes issued pre-biologic; HR 1.60 (1.14 to 2.24)*

DLA/PIP pre-biologic; 4.26 (3.02 to 6.00)*

Supplementary Table S6: Univariate analysis for inclusion of significant candidate variables associated with commencing biologic treatment from diagnosis in PsA patients to be incorporated into a cox proportional hazard model.

| | Hazard ratio | 95% CI |
|-------------------------------------|--------------|-----------------|
| Female | 0.86 | 0.58 to 1.29 |
| Age at diagnosis | 0.98 | 0.97 to 0.99 |
| Social deprivation quintile | 1.13 | 0.99 to 1.30 |
| BMI | 1.01 | 0.98 to 1.04 |
| Alcohol drinker | 3.41 | 1.25 to 9.29* |
| Smoker | 0.91 | 0.44 to 1.88 |
| Orthopaedic surgery | 0.48 | 0.07 to 3.48 |
| Hospitalised for serious infections | 1.14 | 0.66 to 1.95 |
| Disease activity score (DAS 28) | 1.01 | 0.82 to 1.25 |
| Existing diabetes | 1.04 | 0.56 to 2.0 |
| Existing cardiovascular disease | 0.68 | 0.30 to 1.55 |
| Existing hyperlipidemia | 0.93 | 0.45 to 1.91 |
| Existing hypertension | 0.96 | 0.61 to 1.50 |
| Number of NSAIDs pre-biologic | 1.51 | 1.44 to 1.57* |
| Number of DMARDs pre-biologic | 2.56 | 2.35 to 2.78* |
| DLA/PIP pre-biologic | 62.57 | 40.23 to 97.30* |
| Sick-notes issued pre-biologic | 29.60 | 18.41 to 47.59* |
| GP visits pre-diagnosis | 1.00 | 1.00 to 1.00 |
| GP visits post-diagnosis | 1.00 | 1.00 to 1.00 |
| GP visits pre-biologic | 1.00 | 1.00 to 1.01 |

* $p < 0.05$

Final Model (factors that remained significant):

Number of DMARDs pre-biologic; HR: 2.21 (1.87 to 2.60)*

DLA/PIP pre-biologic; HR 2.55 (1.15 to 5.66)

Supplementary Table S7: Univariate analysis for inclusion of significant candidate variables associated with biologic treatment failure in AS patients to be incorporated into a cox proportional hazard model.

| | Hazard ratio | 95% CI |
|-------------------------------------|--------------|---------------|
| Female | 1.49 | 0.91 to 2.45 |
| Age at diagnosis | 1.00 | 0.98 to 1.02 |
| Social deprivation quintile | 1.05 | 0.89 to 1.24 |
| BMI | 1.05 | 1.01 to 1.10* |
| Alcohol drinker | 0.87 | 0.45 to 1.71 |
| Smoker | 0.68 | 0.28 to 1.70 |
| Orthopaedic surgery | 3.00 | 0.94 to 9.53 |
| Hospitalised for serious infections | 1.15 | 0.63 to 2.09 |
| Disease activity score (DAS 28) | 2.46 | 0.75 to 8.06 |
| Existing diabetes | 0.92 | 0.42 to 2.02 |
| Existing cardiovascular disease | 1.07 | 0.46 to 2.47 |
| Existing hyperlipidemia | 0.45 | 0.11 to 1.84 |
| Existing hypertension | 1.11 | 0.65 to 1.89 |
| Number of NSAIDs pre-biologic | 1.02 | 0.94 to 1.10 |
| Number of DMARDs pre-biologic | 1.00 | 0.88 to 1.15 |
| Biologic duration | 1.52 | 1.41 to 1.64* |
| DLA/PIP pre-biologic | 0.90 | 0.56 to 1.46 |
| DLA/PIP post-biologic | 1.53 | 0.87 to 2.68 |
| Sick-notes issued pre-biologic | 1.01 | 0.62 to 1.66 |
| Sick-notes issued post-biologic | 0.87 | 0.47 to 1.63 |
| GP visits pre-diagnosis | 1.00 | 1.00 to 1.00 |
| GP visits post-diagnosis | 1.00 | 1.00 to 1.00 |
| GP visits pre-biologic | 1.00 | 1.00 to 1.00 |
| GP visits post-biologic | 1.01 | 1.00 to 1.01 |

* $p < 0.05$

Final Model (factors that remained significant):

Biologic duration; HR: 1.51 (1.39 to 1.64)*

Supplementary Table S8: Univariate analysis for inclusion of significant candidate variables associated with biologic treatment failure in PsA patients to be incorporated into a cox proportional hazard model.

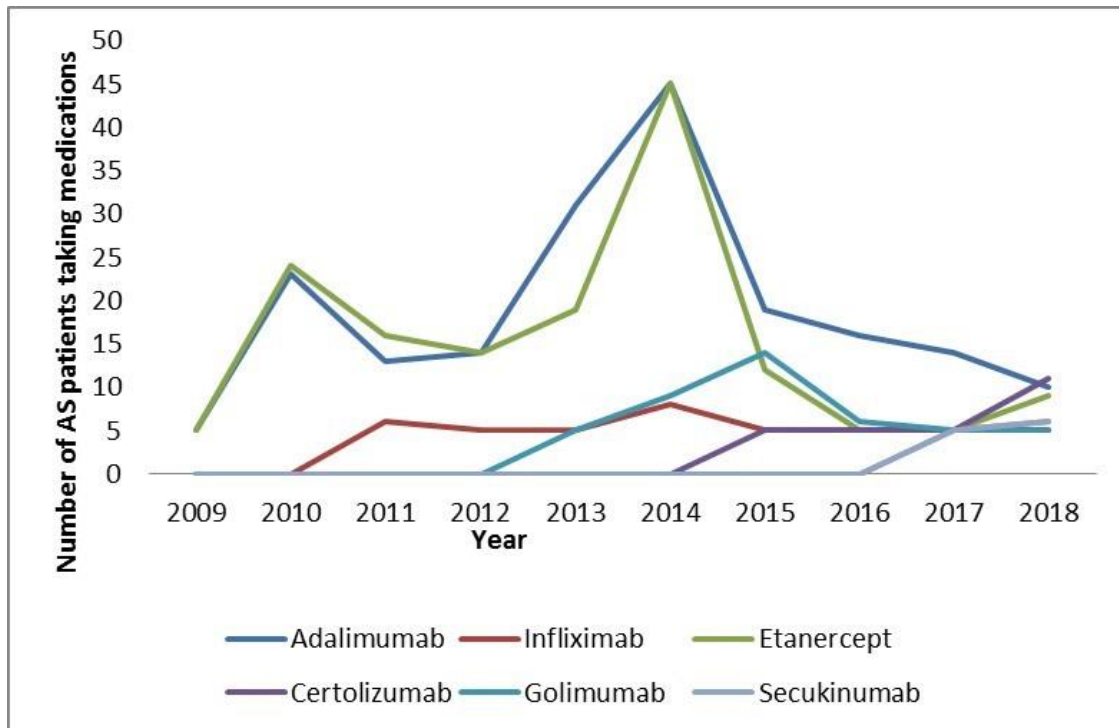
| | Hazard ratio | 95% CI |
|-------------------------------------|--------------|---------------|
| Female | 1.28 | 0.84 to 1.96 |
| Age at diagnosis | 0.99 | 0.97 to 1.00 |
| Social deprivation quintile | 1.05 | 0.92 to 1.20 |
| BMI | 1.02 | 0.99 to 1.05 |
| Alcohol drinker | 1.84 | 0.74 to 4.54 |
| Smoker | 1.59 | 0.85 to 2.99 |
| Orthopaedic surgery | 2.00 | 0.73 to 5.45 |
| Hospitalised for serious infections | 1.21 | 0.73 to 4.45 |
| Disease activity score (DAS 28) | 1.00 | 0.95 to 1.06 |
| Existing diabetes | 0.81 | 0.39 to 1.67 |
| Existing cardiovascular disease | 0.39 | 0.10 to 1.58 |
| Existing hyperlipidemia | 0.95 | 0.42 to 2.18 |
| Existing hypertension | 1.50 | 0.97 to 2.33 |
| Number of NSAIDs pre-biologic | 0.97 | 0.84 to 1.13 |
| Number of DMARDs pre-biologic | 0.83 | 0.47 to 1.46 |
| Biologic duration | 1.32 | 1.24 to 1.42* |
| DLA/PIP pre-biologic | 1.01 | 0.65 to 1.55 |
| DLA/PIP post-biologic | 1.51 | 0.85 to 2.67 |
| Sick-notes issued pre-biologic | 0.79 | 0.50 to 1.26 |
| Sick-notes issued post-biologic | 1.33 | 0.83 to 2.15 |
| GP visits pre-diagnosis | 1.00 | 1.00 to 1.00 |
| GP visits post-diagnosis | 1.00 | 1.00 to 1.00 |
| GP visits pre-biologic | 1.00 | 1.00 to 1.00 |
| GP visits post-biologic | 1.00 | 1.00 to 1.01 |

* $p < 0.05$

Final Model (factors that remained significant):

Biologic duration; HR 1.32 (1.24 to 1.42)*

Supplementary Figure S1: Incidence of biologic initiation in AS patients by year



Supplementary Figure S2: Incidence of biologic initiation in PsA patients by year

