

Adjusted Refined Diagnosis Related Groups (ARDRGs)

The following describes the impact of grouping discharges into ARDRGs by excluding certain ICD-9 codes associated with complications.

Description of ARDRGs

DRGs are grouped into RDRGs to indicate the expected, relative resource intensity of a patient based on that patient’s principle and secondary ICD-9 codes, age, sex, discharge status/disposition, and LOS. ARDRGs follow a similar methodology, however ICD-9 diagnosis and procedure codes for adverse outcomes are excluded from the assignment of severity (where codes occur within secondary diagnoses and procedures only). Furthermore, discharges that would be categorized as early death RDRGs (e.g., RDRGs beginning with the number 8) are instead assigned an ARDRG within the same DRG class. Excluding adverse outcomes from the severity grouping is done so that you can adjust via ARDRG without provider(s) benefiting from the presence of quality issues. There are three (3) overall categories of patients eligible for exclusion of secondary diagnosis and/or procedure codes when assigning severity by ARDRG. They include patients at risk of:

- I. Adverse effects or wound infection** – all patients are at risk of adverse effects and/or wound infection; QI sets **P-Adverse Eff(16)** and **P-Wound Inf(15)**
- II. OB Complications** – all women who deliver; QI set **P-OB Compl(3)**
- III. Surgical complications** – all patients receiving major surgery; QI sets **P-AMI pSurg(5)**, **P-GI Hem/Ulc(7)**, **P-Mech Comp(10)**, **P-Pneu pSurg(14)**, **P-Pulm Comprom(4)**, **P-Urinary Tract(13)**, **P-VThrom/Pemb(8)**

I. Patients at risk of Adverse Effects or Wound Infection

All patients are at risk of adverse effects and/or wound infection. The following secondary diagnosis and procedure codes are excluded from severity classification by ARDRG for all patients at risk:

Excluded ICD-9 Diagnosis Codes					
Code	Description	Code	Description	Code	Description
9583	Posttraum Wnd Infec NEC	99889	Oth Spcf Cmplc Procd NEC	9974	Surg Comp-Digestv System
9985	Postoperative Infection	9989	Surgical Complicat NOS	9974	Surg Comp-Digestv System
99851	Infected Postop Seroma	9991	Air Embol Comp Med Care	9975	Surg Compl-Urinary Tract
99859	Other Postop Infection	9993	Infec Compl Med Care NEC	99760	Amputat Stump Compl NOS
9981	Hemorr Complic Procedure	9998	Transfusion Reaction NEC	9979	Surg Compl-Body Syst NEC
99811	Hemorrhage Complic Proc	9999	Complic Med Care NEC/NOS	99791	Surg Comp - Hypertension
99812	Hematoma Complic Proc	41511	Iatrogen Pulm Emb/Infarc	99799	Surg Compl-Body Syst NEC
99813	Seroma Complicating Proc	4582	Iatrogenic Hypotension	41060	True Post Infarc,Unspec
56960	Colostomy/Enter Comp NOS	5121	Iatrogenic Pneumothorax	9954	Shock Due To Anesthesia

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Excluded ICD-9 Diagnosis Codes					
Code	Description	Code	Description	Code	Description
56961	Colosty/Enterost Infectn	9970	Surg Complication-Cns	99586	Malignant Hyperthermia
56969	Colstmy/Enteros Comp NEC	99700	Nervous Syst Complc NOS	4108	Myocardial Infarct NEC
99589	Adverse Effect NEC	99701	Surg Complication - Cns	9982	Accidental Op Laceration
9986	Persist Postop Fistula	99702	Iatrogen Cv Infarc/Hmrhg	9983	Postop Wound Disruption
9988	Surgical Complicat NEC	99709	Surg Comp Nerv System NEC	9984	Fb Left During Procedure
99881	Emphysema Rslt Frm Proc	9971	Surg Compl-Heart	9987	Postop Forgn Subst React
99882	Ctrct Frgmt Frm Ctr Surg	9972	Surg Comp-Peri Vasc Syst	9996	Abo Incompatibility Reac
99883	Non-Healing Surgcl Wound	9973	Surg Complic-Respir Syst	9997	Rh Incompatibility React

Excluded ICD-9 Procedure Codes	
Code	Description
287	Hemorr Contrl Post T & A
3941	Postop Vasc Op Hem Contr
3998	Hemorrhage Control NOS
4995	Control Anal Hemorrhage
5793	Control Bladd Hemorrhage
6094	Control Prostate Hemorr

Patient Example – Adverse Effects and Wound Infection

Assume a patient with the following Diagnosis codes:

The screenshot shows a list of diagnoses in a table format. A blue callout box labeled 'Excluded Dx Codes' has two arrows pointing to the rows for '9971 Surg Compl-Heart' and '99859 Other Postop Infection'.

Diagnoses	
41401	Cmry Athrsccl Natve Vssl
4111	Intermed Coronary Synd
9971	Surg Compl-Heart
42731	Atrial Fibrillation
2859	Anemia NOS
99859	Other Postop Infection

This patient has the following additional codes:

- **DRG** 107 – Coronary Bypass w/ Cardiac Cath
- **RDRG** 1073 – Coronary Bypass w/ Cardiac Cath w/ Class A Cc

By excluding the above diagnoses for adverse effects and infection, this patient goes from the highest-level severity with complications to a lower-level severity.

- **ARDRG** 1072 – Coronary Bypass w/ Cardiac Cath w/ Class B Cc

Adjusted Refined Diagnosis Related Groups (ARDRGs)

II. Patients at risk of OB Complications

The following secondary diagnosis and procedure codes are excluded from severity classification by ARDRG for patients at risk for OB complications:

Excluded ICD-9 Diagnosis Codes					
Code	Description	Code	Description	Code	Description
2851	Ac Posthemorrhag Anemia	66822	Cns Complic-Del W P/P	67000	Major Puerp Infect-Unsp
66431	Del W 4 Deg Lacerat-Del	66824	Cns Compl In Del-Postpar	67002	Major Puerp Inf-Del P/P
66434	Del W 4 Deg Lac-Postpart	66880	Anesth Comp Del NEC-Unsp	67004	Major Puerp Inf-Postpart
66600	Third-Stage Hem -Unspec	66881	Anesth Compl NEC-Deliver	67300	Ob Air Embolism-Unspec
66602	Thrd-Stage Hem -Del W P/P	66882	Anesth Compl NEC-Del P/P	67301	Ob Air Embolism-Deliver
66604	Third-Stage Hem -Postpart	66884	Anesth Compl-Postpartum	67302	Ob Air Embol-Deliv W P/P
66610	Postpartum Hem NEC-Unsp	66890	Anesth Comp Del NOS-Unsp	67304	Ob Air Embolism-Postpart
66612	Postpa Hem NEC-Del W P/P	66891	Anesth Compl NOS-Deliver	67400	Puerp Cerebvasc Dis -Unsp
66614	Postpart Hem NEC-Postpar	66892	Anesth Compl NOS-Del P/P	67401	Puerp Cerebvas Dis -Deliv
66620	Delay P/Part Hem -Unspec	66894	Anesth Compl-Postpartum	67402	Cerebvas Dis -Deliv W P/P
66622	Delay P/P Hem-Del W P/P	66910	Obstetric Shock-Unspec	67404	Cerebrovasc Dis -Postpart
66624	Delay P/Part Hem-Postpar	66911	Obstetric Shock-Deliver	67410	Disrupt C-Sect Wnd-Unsp
66800	Pulm Compl In Del-Unspec	66912	Obstet Shock-Deliv W P/P	67412	Disrupt C-Sect-Del W P/P
66801	Pulm Compl In Del-Deliv	66914	Obstetric Shock-Postpart	67414	Disrupt C-Sect-Postpart
66802	Pulm Complic-Del W P/P	66930	Ac Ren Fail W Deliv-Unsp	67420	Disrupt Perineum -Unspec
66804	Pulm Complicat-Postpart	66932	Ac Ren Fail-Deliv W P/P	67422	Disrupt Perin-Del W P/P
66810	Heart Compl In Del-Unsp	66934	Ac Renal Failure-Postpar	67424	Disrupt Perineum -Postpar
66811	Heart Compl In Del-Deliv	66940	Oth Ob Surg Compl-Unspec	67510	Breast Abscess Preg-Unsp
66812	Heart Compl-Del W P/P	66941	Oth Ob Compl-Delivered	67511	Breast Abscess-Delivered
66814	Heart Complic-Postpart	66942	Oth Ob Compl-Deliv W P/P	67512	Breast Abscess-Del W P/P
66820	Cns Compl Labor/Del-Unsp	66943	Complic Ob Surg Anteptrtm	67514	Breast Abscess-Postpart
66821	Cns Compl Lab/Del-Deliv	66944	Oth Ob Surg Compl-Postpa	66430	Del W 4 Deg Lacerat-Unsp

Excluded ICD-9 Procedure Codes	
Code	Description
9900	Periop Aut Trans Hol Bld
9902	Transfus Prev Auto Blood
9903	Whole Blood Transfus NEC
9904	Packed Cell Transfusion
9908	Blood Expander Transfus

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Patient Example – OB Complications

Assume a patient with the following Procedure codes:

The screenshot shows a list of medical procedures. The list includes: 3891 Arterial Catheterization, 3895 Ven Cath Renal Dialysis, 5498 Peritoneal Dialysis, 8964 Pulmon Art Wedge Monitor, 9907 Serum Transfusion NEC, 9905 Platelet Transfusion, and 9904 Packed Cell Transfusion. A blue callout box with a white border points to the '9904 Packed Cell Transfusion' entry, with the text 'Excluded Procedure Code' inside the box.

This patient has the following clinical codes:

- **DRG** 372 – Vaginal Delivery W Compl Dx
- **RDRG** 8140 – Early Death MDC 14

After excluding the above procedure for Packed Cell Transfusion, this patient is assigned an ARDRG within the DRG class for Vaginal Delivery rather than being assigned an early death RDRG.

- **ARDRG** 3722 – Vaginal Delivery w/ Complicating Diag W Class B Cc

III. Patients at risk of Surgical Complications

There are two categories of complications following major surgery used in excluding secondary diagnosis codes from severity classification by ARDRG; 1) patients at risk of GI hemorrhage/ulceration, mechanical complications due to device implants, pulmonary compromise, and/or urinary tract infection after major surgery and 2) patients at risk of venous thrombosis/pulmonary embolus and/or pneumonia after major surgery.

1) Complications following major surgery group 1

Excluded ICD-9 Diagnosis Codes					
Code	Description	Code	Description	Code	Description
514	Pulm Congest/Hypostasis	53211	Ac Duoden Ulc Perf-Obstr	9966	Infec/Inflam-Devic/Graft
5184	Acute Lung Edema NOS	53220	Ac Duoden Ulc W Hem/Perf	99660	Reaction-Unsp Devic/Grft
5185	Post Traum Pulm Insuffic	53221	Ac Duod Ulc Hem/Perf-Obs	99661	React-Cardiac Dev/Graft
5186	Alrgc Brncpul Asprglosis	53240	Chr Duoden Ulcer W Hem	99662	React-Oth Vasc Dev/Graft
51881	Acute Respiratry Failure	53241	Chr Duoden Ulc Hem -Obstr	99663	React-Nerv Sys Dev/Graft
51882	Other Pulmonary Insuff	53260	Chr Duoden Ulc Hem/Perf	99664	React-Indwell Urin Cath
51884	Acute & Chronc Resp Fail	53261	Chr Duod Ulc Hem/Perf-Ob	99665	React-Oth Genitourin Dev
4100	AMI Anterolateral Wall	53300	Ac Peptic Ulcer W Hemorr	99666	React-Inter Joint Prost
41000	AMI Anterolateral,Unspec	53301	Ac Peptic Ulc W Hem-Obst	99667	React-Oth Int Ortho Dev

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Excluded ICD-9 Diagnosis Codes					
Code	Description	Code	Description	Code	Description
41001	AMI Anterolateral, Init	53310	Ac Peptic Ulcer W Perfor	99668	React-Periton Dialy Cath
41002	AMI Anterolateral,Subseq	53311	Ac Peptic Ulc W Perf-Obs	99669	React-Int Pros Devic NEC
4101	AMI Anterior Wall NEC	53320	Ac Peptic Ulc W Hem/Perf	9967	Complic Device/Graft NEC
41010	AMI Anterior Wall,Unspec	53321	Ac Pept Ulc Hem/Perf-Obs	99670	Comp-Unsp Device/Graft
41011	AMI Anterior Wall, Init	53340	Chr Peptic Ulcer W Hem	99671	Comp-Heart Valve Prosth
41012	AMI Anterior Wall,Subseq	53341	Chr Peptic Ulc W Hem -Obs	99672	Comp-Oth Cardiac Device
4102	AMI Inferolateral Wall	53360	Chr Pept Ulc W Hem/Perf	99673	Comp-Ren Dialys Dev/Grft
41020	AMI Inferolateral,Unspec	53361	Chr Pept Ulc Hem/Perf-Ob	99674	Comp-Oth Vasc Dev/Graft
41021	AMI Inferolateral, Init	53400	Ac Marginal Ulcer W Hem	99675	Comp-Nerv Sys Dev/Graft
41022	AMI Inferolateral,Subseq	53401	Ac Margin Ulc W Hem-Obst	99676	Comp-Genitourin Dev/Grft
4103	AMI Inferoposterior Wall	53420	Ac Margin Ulc W Hem/Perf	99677	Comp-Internal Joint Pros
41030	AMI Inferopost, Unspec	53421	Ac Marg Ulc Hem/Perf-Obs	99678	Comp-Oth Int Ortho Devic
41031	AMI Inferopost, Initial	53440	Chr Marginal Ulcer W Hem	99679	Comp-Int Prost Devic NEC
41050	AMI Lateral NEC, Unspec	53441	Chr Margin Ulc W Hem -Obs	5990	Urin Tract Infection NOS
41051	AMI Lateral NEC, Initial	53460	Chr Margin Ulc Hem/Perf	4104	AMI Inferior Wall NEC
41052	AMI Lateral NEC, Subseq	53461	Chr Marg Ulc Hem/Perf-Ob	4105	AMI Lateral Wall NEC
4106	True Posterior Infarct	5789	Gastrointest Hemorr NOS	4107	Subendocardial Infarct
41061	True Post Infarct, Init	41404	Cor Ath Artry Bypas Grft	4109	Myocardial Infarct NOS
41070	Subendo Infarct, Unspec	41405	Cor Ath Bypass Graft NOS	41032	AMI Inferopost, Subseq
41071	Subendo Infarct, Initial	5190	Tracheostomy Complic	41040	AMI Inferior Wall,Unspec
41072	Subendo Infarct, Subseq	51900	Tracheostomy Comp NOS	41041	AMI Inferior Wall, Init
41080	AMI NEC, Unspecified	51901	Tracheostomy Infection	41042	AMI Inferior Wall,Subseq
53100	Ac Stomach Ulcer W Hem	51902	Tracheostomy - Mech Comp	41062	True Post Infarct,Subseq
53101	Ac Stomac Ulc W Hem -Obst	51909	Tracheostomy Comp NEC	41081	AMI NEC, Initial
53110	Ac Stomach Ulcer W Perf	5364	Gastrostomy Comp	41082	AMI NEC, Subsequent
53111	Ac Stom Ulc W Perf-Obst	53640	Gastrostomy Comp NOS	41090	AMI NOS, Unspecified
53120	Ac Stomac Ulc W Hem/Perf	53641	Gastrostomy Infection	41091	AMI NOS, Initial
53121	Ac Stom Ulc Hem/Perf-Obs	53642	Gastrostomy Comp - Mech	41092	AMI NOS, Subsequent
53140	Chr Stomach Ulc W Hem	53649	Gastrostomy Comp NEC	9964	Malf Int Orthped Dev/Grf
53141	Chr Stom Ulc W Hem-Obstr	56962	Colosty/Enter Comp-Mech	99630	Malfunc Gu Dev/Graft NOS
53160	Chr Stomach Ulc Hem/Perf	99601	Malfunc Cardiac Pacemaker	99631	Malfunc Urethral Cath
53161	Chr Stom Ulc Hem/Perf-Ob	99604	Mch Cmp Autm Mplnt Dfbrl	99632	Malfunction Iud
53200	Ac Duodenal Ulcer W Hem	99655	Comp-Artificial Skin Grf	99639	Malfunc Gu Dev/Graft NEC
53201	Ac Duoden Ulc W Hem -Obst	99656	Comp-Periton Dialys Cath	99654	Breast Prosth Malfunc
53210	Ac Duodenal Ulcer W Perf	99659	Malfunc Oth Device/Graft		

Adjusted Refined Diagnosis Related Groups (ARDRGs)

2) Complications following major surgery group 2

Excluded ICD-9 Diagnosis Codes					
Code	Description	Code	Description	Code	Description
4151	Pulmon Embolism/Infarct	4823	Streptococcal Pneumonia	48282	Pneumonia E Coli
41511	Iatrogen Pulm Emb/Infarc	48230	Streptococcal Pneumn NOS	48283	Pneumo Oth Grm-Neg Bact
41519	Pulm Embol/Infarct NEC	48231	Pneumonia Strptococcus A	48284	Legionnaires' Disease
45111	Femoral Vein Phlebitis	48232	Pneumonia Strptococcus B	48289	Pneumonia Oth Spcf Bact
45119	Deep Phlebitis -Leg NEC	48239	Pneumonia Oth Strep	4829	Bacterial Pneumonia NOS
45181	Iliac Thrombophlebitis	4824	Staphylococcal Pneumonia	483	Pneumonia: Organism NEC
4538	Venous Thrombosis NEC	48240	Staphylococcal Pneu NOS	4830	Pneu Mycplsm Pneumoniae
481	Pneumococcal Pneumonia	48241	Staph Aureus Pneumonia	4831	Pneumonia D/T Chlamydia
4820	K. Pneumoniae Pneumonia	48249	Staph Pneumonia NEC	4838	Pneumon Oth Spec Orgnsm
4821	Pseudomonal Pneumonia	4828	Bacterial Pneumonia NEC	485	Bronchopneumonia Org NOS
4822	H.Influenzae Pneumonia	48281	Pneumonia Anaerobes	486	Pneumonia, Organism NOS

Patient Example – Surgical Complications

Assume a patient with the following Diagnosis codes:

The image shows a screenshot of a 'Diagnoses' list. The list contains the following items:

- 9964 Malf Int Orthped Dev/Grf
- 99859 Other Postop Infection
- 4538 Venous Thrombosis NEC
- 4532 Vena Cava Thrombosis
- 41511 Iatrogen Pulm Emb/Infarc
- 2763 Alkalosis

A box labeled 'Excluded Dx Codes' has arrows pointing to the four diagnosis codes: 4538, 4532, 41511, and 2763.

This patient has the following clinical codes:

- **DRG** 209 – Major Joint & Limb Reattach Proc
- **RDRG** 2093 – Major Joint & Limb Reattach Proc Lwr Ext W Class A Cc

By excluding the above diagnoses for surgical complications, this patient goes from the highest-level severity to a lower-level severity.

- **ARDRG** 2092 – Major Joint & Limb Reattach Proc Lwr Ext W Class B Cc