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3M™ All Patient Refined Diagnosis Related Groups (APR DRG)  
Classification System

# Summary of Changes (Preview)

for ICD-10-CM/PCS

version 38.0

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# Table of Contents

<b>3M™ All Patient Refined Diagnosis Related Groups (APR DRGs) Classification System v38.0 summary of changes .....</b>	<b>5</b>
APR DRG changes .....	8
New APR DRGs .....	8
Deleted APR DRGs.....	8
Revised APR DRG descriptions.....	8
Pre-MDC.....	8
MDC 1 Diseases and disorders of the nervous system .....	9
MDC 3 Ear, nose, mouth, throat and craniofacial diseases and disorders .....	9
MDC 4 Diseases and disorders of the respiratory system .....	9
MDC 6 Diseases and disorders of the digestive system.....	9
MDC 8 Diseases and disorders of the musculoskeletal system and connective tissue ....	10
MDC 9 Diseases and disorders of the skin, subcutaneous tissue and breast .....	10
Skin grafts.....	10
Non-OR to OR.....	10
OR to non-OR .....	10
Pre-existing condition diagnoses .....	10
Severity of illness (SOI) logic changes.....	11
Risk of mortality (ROM) logic changes.....	12
SOI and ROM changes related to COVID-19.....	13



# 3M™ All Patient Refined Diagnosis Related Groups (APR DRGs) Classification System v38.0 summary of changes

This document identifies changes planned for v38.0 of the 3M™ All Patient Refined Diagnosis Related Groups (APR DRG) Classification System, effective October 1, 2020. Although we do not expect changes before the software is released at the end of September, please note that changes are possible.

Each year, 3M revises the APR DRG grouping logic for two reasons:

- To accommodate changes in code sets used by the hospital industry, most importantly the International Classification of Diseases, Version 10, Clinical Modification (ICD-10-CM) and the International Classification of Diseases, Version 10, Procedure Coding System (ICD-10-PCS). The U.S. Department of Health and Human Services updates the ICD-10-CM and ICD-10-PCS code sets effective October 1 of each year.
- 3M continually performs research to enhance the clinical precision of the APR DRG logic, that is, how each inpatient is assigned to a single base APR DRG, severity of illness (SOI), and risk of mortality (ROM) based on his or her diagnoses, major procedures, and other clinical data.

As shown in table 1, there is a net increase of 430 ICD-10-CM diagnosis codes, or 0.6%, effective October 1, 2020. Table 2, on the other hand, shows a net increase of 556 ICD-10-PCS procedure codes, or 0.7%.

**Table 1. Comparison of ICD-10-CM diagnosis codes**

	Effective 04/01/2020	Effective 10/01/2020
Total ICD-10-CM diagnosis codes	72,186	72,616
Number of new diagnosis codes	273	490
Number of deleted diagnosis codes	21	58
Number of revised diagnosis codes	30	47
<b>Note:</b> There were 72,184 codes as of October 1, 2019. Two codes for vaping-related disorder and COVID-19 were added effective April 1, 2020. The rows for added and deleted codes compare the October 1 counts.		

**Table 2. Comparison of ICD-10-PCS procedure codes**

	Effective 10/01/2019	Effective 10/01/2020
Total ICD-10-PCS procedure codes	77,559	78,115
Number of new procedure codes	734	556
Number of deleted procedure codes	2056	0
Number of revised procedure code titles	128 revisions to short title only 2 revisions to both long and short titles	0

**Table 3. Comparison of APR DRG v37.1 and v38.0**

	v37.1 effective 04/01/2020	v38.0 effective 10/01/2020
Number of base APR DRGs	330	332
New base APR DRGs	10	4
Deleted base APR DRGs	6	2
Revised base APR DRG titles	15	1
Severity of illness levels per base APR DRG	4	4
Risk of mortality levels per base APR DRG	4	4
Error APR DRGs	2	2
Total APR DRGs	1,322	1,330
Total Major Diagnostic Categories (MDCs)	25	25
Number of procedures changing status from OR to non-OR	8	57
Number of procedures changing status from non-OR to OR	8	20
<b>Note:</b> 3M introduced v37.1 effective April 1, 2020, in response to the introduction of new ICD-10-CM diagnosis codes U070 Vaping-related disorder and U071 COVID-19. The counts shown in this table were unchanged between v37.0 effective October 1, 2019, and v37.1 effective April 1, 2020.		

With regard to updating the clinical logic, changes have been made to improve the precision of the grouping logic, taking into account customer recommendations, the shift in coding to

ICD-10-CM and ICD-10-PCS, and changes in practice, such as many procedures being performed percutaneously versus an open approach.

Almost all APR DRGs can be aggregated into 25 Major Diagnostic Categories (MDCs), such as Diseases and Disorders of the Respiratory System. As well, nine base APR DRGs are considered "pre-MDC" while three base APR DRGs (APR DRGs 950-952 Procedures unrelated to principal diagnosis) and two error APR DRGs are not assigned to an MDC.

As summarized in table 3, highlights of the changes in the clinical logic are listed below in the following bullets. More detailed information about changes in base APR DRGs, severity of illness (SOI) and risk of mortality (ROM) is provided later in this document.

- Four new base APR DRGs and two deleted APR DRGs, which brings the base APR DRG count to 332. Each base APR DRG has four levels of severity of illness and four levels of risk of mortality. The total count of APR DRGs is 1,330, including two error APR DRGs.
- In MDC 8 Diseases and disorders of the musculoskeletal system and connective tissue, four new DRGs were created and two were deleted. The hip and knee replacement DRGs were each split depending on the presence or absence of a complex principal diagnosis (PDX) such as neoplasms, fractures, osteomyelitis and osteonecrosis.
- For patients diagnosed with U07.1 COVID-19, various changes have been made to the logic for assigning SOI and ROM. The general effect is increased recognition of the diagnosis's impact on severity of illness and risk of mortality.
- Logic changes were also made to APR DRGs in these MDCs:
  - Pre-MDC
  - MDC 1: Diseases and disorders of the nervous system
  - MDC 3: Ear, nose, mouth, throat and craniofacial diseases and disorders
  - MDC 4: Diseases and disorders of the respiratory system
  - MDC 6: Diseases and disorders of the digestive system
  - MDC 9: Diseases and disorders of the skin, subcutaneous tissue and breast
- Fifty-seven procedures changed status from operating room (OR) to non-OR. Twenty procedures changed status from non-OR to OR.
- There were a limited number of revisions in Steps 2, 5, 9, 10, 11, 12, 13, 14, 17 of the 18-step process of assigning severity of illness and risk of mortality.
- Added 12 ICD-10-PCS procedure codes that became effective August 1, 2020. These codes describe the introduction or infusion of therapeutics, including remdesivir and convalescent plasma.

APR DRG version 38.0 will be accompanied by updates of the Methodology Overview, the Definitions Manual, the Summary of Changes document, and the Weights and Trims with Code Descriptions spreadsheet.

Additional information on the v38.0 modifications is provided in the following sections.

## APR DRG changes

### New APR DRGs

There are 4 new APR DRGs.

APR DRG	Description
323	Non-elective or complex hip joint replacement
324	Elective hip joint replacement
325	Non-elective or complex knee joint replacement
326	Elective knee joint replacement

### Deleted APR DRGs

There two deleted APR DRGs.

APR DRG	Description
301	Hip joint replacement
302	Knee joint replacement

### Revised APR DRG descriptions

There is one APR DRG with a revised description.

APR DRG	Previous Description	Revised Description
043	Multiple sclerosis and other demyelinating disease	Multiple sclerosis, other demyelinating disease and inflammatory neuropathies

### Pre-MDC

#### Bone marrow transplants

All bone marrow transfusion procedures in APR DRG 007 (Allogeneic bone marrow transplant) and APR DRG 008 (Autologous bone marrow transplant or T-Cell immunotherapy) will be assigned as non-OR procedures that affect DRG assignment. DRG 007 and DRG 008 will be designated as medical APR DRGs.



## **MDC 1 Diseases and disorders of the nervous system**

### **Pituitary gland procedures**

Forty-five pituitary gland procedure codes have been added to the rerouting logic from MDC 10 Endocrine, nutritional and metabolic diseases and disorders to MDC 1 Diseases and disorders of the nervous system

## **MDC 3 Ear, nose, mouth, throat and craniofacial diseases and disorders**

### **DRG 98 Other ear, nose, mouth & throat procedures**

Upon clinical review of DRG 98 Other ear, nose, mouth & throat procedures it was determined to remove 451 procedures that were not specific to ears, nose, mouth and throat.

## **MDC 4 Diseases and disorders of the respiratory system**

### **Bronchitis diagnosis**

To improve clinical precision, nine bronchitis diagnosis codes were moved from DRG 144 Respiratory signs, symptoms and miscellaneous diagnoses to DRG 145 Acute bronchitis and related symptoms.

### **Insertion of infusion device**

Fourteen insertion of infusion device procedures not pertaining to the respiratory system have been removed from DRG 121 Other respiratory & chest procedures.

## **MDC 6 Diseases and disorders of the digestive system**

### **Sequela diagnosis codes**

A subset of sequela codes has been moved from MDC 6 Diseases and disorders of the digestive system to their related organ system MDC.

- Liver, gallbladder, bile duct and pancreas diagnosis codes have been moved to MDC 7 Diseases and disorders of the hepatobiliary system and pancreas.
- Spleen sequela diagnosis codes have been moved to MDC 11 Diseases and disorders of the kidney and urinary tract.
- Kidney sequela diagnosis codes have been moved to MDC 16 Diseases and disorders of blood, blood forming organs and immunological disorders.
- Eighty-two procedures not related to the digestive system were removed from DRG 229 Other digestive system & abdominal procedures.

## **MDC 8 Diseases and disorders of the musculoskeletal system and connective tissue**

### **APR DRG 301 (Hip replacements) and APR DRG 302 (Knee replacements)**

APR DRGs 301 and 302 were evaluated for clinical consistency within the types of patients that were assigned to these DRGs. After review, in order to improve clinical precision, the DRGs were each split by complex PDX which include diagnoses such as neoplasms, fractures, osteomyelitis and osteonecrosis.

## **MDC 9 Diseases and disorders of the skin, subcutaneous tissue and breast**

### **Sequela diagnosis codes**

A subset of sequela codes has been moved from MDC 9 Diseases and disorders of the skin, subcutaneous tissue and breast to their related organ system MDC.

- Male anatomy related sequela diagnosis codes have been moved to MDC 12 Diseases and disorders of the male reproductive system.
- Female anatomy related sequela diagnosis codes have been moved to MDC 13 Diseases and disorders of the female reproductive system.

## **Skin grafts**

In order to provide clinical consistency between APR DRGs that include a skin graft procedure, the skin graft lists for MDC 8 DRG 312, MDC 9 DRG 361 and MDC 22 DRGs 841/842 were aligned to be the same.

## **Non-OR to OR**

In v38.0, there are 20 procedures that have changed status from non-OR to OR.

## **OR to non-OR**

In v38.0, there are 57 procedures that have changed status from OR to non-OR.

## **Pre-existing condition diagnoses**

In v38.0, the pre-existing condition diagnoses list has been updated to include placenta accrete, placenta increta and placenta percreta diagnosis codes. Encounter for palliative care was removed from the pre-existing conditions diagnosis list.

## Severity of illness (SOI) logic changes

The 18-step logic for severity of illness (SOI) assignment has been revised, as follows.

### **Step 2 Assign each secondary diagnosis to its standard severity of illness level**

There were two diagnosis codes that had an increase in severity of illness values.

### **Step 5: Modify the severity of illness subclass for the patient based on secondary diagnosis and APR DRG**

SDX/DRG combinations were added for new DRGs 323, 324, 325 and 326 (hip and knee arthroplasty).

### **Step 10: Modify severity of illness subclass for the patient based on combinations of APR DRG and principal diagnosis**

There were diagnosis code/DRG combinations that have been added in step 10 including for new DRGs 323, 324, 325 and 326.

### **Step 12: Modify the severity of illness subclass for the patient based upon combinations of APR DRG and non-OR procedures**

Two procedures code were removed from step 12 logic for DRG 191 Cardiac catheterization for coronary artery disease and 192 Cardiac catheterization for other non-coronary conditions.

### **Step 13: Modify the severity of illness subclass for the patient based on combinations of APR DRG and OR procedure**

Three procedures for extirpations of matter from cranial epidural space were added to DRG 710 Infections and parasitic diseases including HIV with OR procedure. Two procedures for drainage of neck were added to DRG 98 Other ear, nose, mouth and throat procedures.

Combinations of APR/OR procedures were also added for new DRGs 323,324,325 and 326.

### **Step 14: Modify the severity of illness subclass for the patient based on combinations of APR DRG and pairs of OR procedures**

Three new categories were added and one category removed based on the two new knee arthroplasty DRGs.

#### *New Categories*

- Left knee joint replacement or revision
- Right knee joint replacement or revision
- Ankle joint replacement

#### *Deleted Category*

- Knee replacement procedures

**Step 17 Establish a minimum severity of illness subclass for the patient based on the presence of specific combinations of categories of secondary diagnoses**

There were two codes removed from category 381 Eye diagnoses

## Risk of mortality (ROM) logic changes

The 18-step logic for risk of mortality (ROM) has been revised, as follows.

**Step 2 Assign each secondary diagnosis to its risk of mortality level**

There was 1 diagnosis code that had an increase in risk of mortality value.

**Step 9 Reduce the risk of mortality subclass of patients with a major or extreme subclass unless the patient has multiple secondary diagnoses at a high severity level**

Step 9 was revised to align with step 2 revisions. U071 COVID-19 was added to ROM list D.

**Step 10: Modify risk of mortality subclass for the patient based on combinations of APR DRG and principal diagnosis**

Fourteen 14 diagnosis code/DRG combinations were added.

One diagnosis code was modified: U071 COVID-19 in DRG 137 Major respiratory infections and inflammations was bumped from 1 to 2 and from a limit of 2 to 3.

**Step 11: Modify the risk of mortality subclass for the patient based on combinations of the APR DRG and principal diagnosis and age, or APR DRG and age, or APR DRG and birthweight and presence/absence of certain non-OR procedures**

Six pulmonary embolism codes were removed from step 12.

**Step 14: Modify the risk of mortality subclass for the patient based on combinations of APR DRG and pairs of OR procedures**

Three new categories were added and one category removed based on the two new knee arthroplasty DRGs.

*New Categories*

- Left knee joint replacement or revision
- Right knee joint replacement or revision
- Ankle joint replacement

*Deleted Category*

- Knee replacement procedures

**Step 17 Establish a minimum risk of mortality subclass for the patient based on the presence of specific combinations of categories of secondary diagnoses**

There were two codes removed from category 381 Eye diagnoses

## SOI and ROM changes related to COVID-19

Upon clinical review the following step changes have been made to diagnosis code U071 (COVID-19). In comparison with APR DRG v37.1, the effect is increased recognition of the diagnosis's impact on severity of illness and risk of mortality.

### **Step 2 Risk of Mortality**

U071 COVID-19 risk of mortality was increased from level 2 to level 3.

### **Step 9 Risk of Mortality**

Due to the increase of ROM in step 2 U071 (COVID-19) has been removed from ROM list E and added to ROM list D.

### **Step 10 Severity of Illness**

The following APR DRGs have been added to step 10 with a bump of 2 and limit of 3 when U071 (COVID-19) is the principal diagnosis:

- 120 Major respiratory & chest procedures
- 121 Other respiratory & chest procedures
- 130 Respiratory diagnosis with MV >96 hours
- 625 Neonate birth weight 2000-2499g with other significant condition
- 639 Neonate birth weight > 2499g with other significant condition
- 893 HIV with multiple significant HIV related conditions
- 894 HIV with one significant HIV condition or without significant related conditions

### **Step 10 Risk of Mortality**

The following APR DRGs have been added to step 10 with a bump of 1 and limit of 3 when U071 (COVID-19) is the principal diagnosis:

- 120 Major respiratory & chest procedures
- 121 Other respiratory & chest procedures
- 130 Respiratory diagnosis with MV >96 hours
- 625 Neonate birth weight 2000-2499g with other significant condition
- 639 Neonate birth weight > 2499g with other significant condition

- 893 HIV with multiple significant HIV related conditions
- 894 HIV with one significant HIV condition or without significant related conditions

The following DRGs has been modified in ROM step 10 with a bump of 1 and limit of 3 when U071 (COVID-19) is the principal diagnosis:

- 137 Major respiratory infections and inflammations

#### **Step 17 Risk of Mortality**

U071 (COVID-19) has been updated to category 873 Viral infections due to the increase in the ROM in step 2.

#### **New procedure codes related to COVID-19**

In response to the COVID-19 pandemic, the Centers for Medicare & Medicaid Services (CMS) implemented 12 new procedure codes to describe the introduction or infusion of therapeutics, including, remdesivir and convalescent plasma, into the International Classification of Diseases, Tenth Revision, Procedure Coding System (ICD-10-PCS), effective August 01, 2020. These 12 procedure codes were added to v38.0.