

## Elective Lumbar Fusion Warranty

In developing this warranty for lumbar fusion the Accountable Payment Model (APM) subgroup of the Dr. Robert Bree Collaborative relied most heavily on a similar initiative creating a warranty for total knee replacement (TKR) and total hip replacement (THR). It is our opinion that lumbar fusion and total joint replacement shared sufficient similarities with respect to readmission to the hospital for avoidable complications that the model was transferrable to single level lumbar fusion surgery.

The warranty for TKR and THR was based on a study of complications of these surgeries commissioned by the Centers for Medicare and Medicaid Services (CMS) and subsequently adopted by the High Value Healthcare Collaborative (HVHC), a group of 18 major medical systems from across the country founded by the Dartmouth Institute. To see this report, please visit: [http://www.breecollaborative.org/wp-content/uploads/bree\\_warranty\\_tkr\\_thr.pdf](http://www.breecollaborative.org/wp-content/uploads/bree_warranty_tkr_thr.pdf)

The primary intent of the warranty is to set a high priority on patient safety. It is also intended to balance financial gain for providers and institutions performing lumbar fusion surgery with financial accountability for complications attributable to these procedures. In this warranty the intent is to distribute financial risk across professional and facility components in proportion to the revenue generated by the procedure.

### Definitions related to a warranty for Lumbar Fusion

- Diagnostic code for osteoarthritis of the spine - excludes trauma, cancer, inflammatory conditions, and congenital scoliosis.
- Procedural codes for single level lumbar fusion.
- Age limits.
- Definition of complications excluded from additional reimbursement.
- Definition of warranty period.

### Diagnostic codes

Diagnostic codes for posterior lumbar fusion with instrumentation 1 level include:

- 722.10 = Herniated disk
- 724.02 = Stenosis without neurogenic claudication
- 724.03 = Stenosis with neurogenic claudication
- 738.4 = Spondylolisthesis
- 722.52 = Degenerative disk disease

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### Procedure Codes

Procedure codes for posterior lumbar fusion with instrumentation 1 level include:

- 22663 = Includes both posterolateral and posterior interbody arthrodesis (fusion)
- 63047-59 = DLL or
  - 63012 = Gill Procedure for spondylolisthesis or
  - 63042 = Redo laminectomy
- 22851 = Application of cages
- 22840 = Posterior non-segmental instrumentation
- 20930 = Cadaver bone chips
- 20936 = Autograft (same incision)
- 38220 = Bone marrow aspiration/draft

### Age limits

>=18 years old (no upper limit)

### Complications

Definition of complications included in warranty:

- As specified by CMS TEP report (*Available in the total knee replacement and total hip replacement warranty*).
- Aligned with ICD-9 codes adopted by HVHC for lumbar fusion.

Complications for warranty are intended to meet the following criteria:

- Represent significant complications attributable to the lumbar fusion procedure.
  - Are identifiable in administrative claims data.
  - Are fair to hospitals and physicians.
1. Death as a result of any of the other complications included in the warranty.
  2. Surgical complications:
    - a. Mechanical complications.
    - b. Periprosthetic joint complications:
      - Incision and drainage.
      - Revision.
      - Removal.
    - c. Wound infection:
      - Incision and drainage.
      - Revision.
      - Removal.
    - d. Surgical site bleeding requiring readmission for incision and drainage.
    - e. Pulmonary embolism.
  3. Medical complications:
    - a. Acute myocardial infarction.
    - b. Pneumonia.
    - c. Sepsis/septicemia.

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**Warranty period and other terms**

1. Warranty period is complication-specific:

7 days	30 days	90 days
<ul style="list-style-type: none"><li>• Acute myocardial infarction</li><li>• Pneumonia</li><li>• Sepsis/septicemia</li></ul>	<ul style="list-style-type: none"><li>• Death</li><li>• Pulmonary embolism</li><li>• Surgical site bleeding</li><li>• Wound infection</li></ul>	<ul style="list-style-type: none"><li>• Infection involving implant</li><li>• Mechanical complications</li></ul>

2. The warranty is valid only at the hospital performing the surgery. Therefore, patients experiencing complications are strongly encouraged to seek treatment at that hospital.

## ACUTE MYOCARDIAL INFARCTION (AMI)

Complication ICD-9 Code	Description
410	Acute myocardial infarction
410.0	Acute myocardial infarction of anterolateral wall
410.00	Acute myocardial infarction of anterolateral wall episode of care unspecified
410.01	Acute myocardial infarction of anterolateral wall initial episode of care
410.1	Acute myocardial infarction of other anterior wall
410.10	Acute myocardial infarction of other anterior wall episode of care unspecified
410.11	Acute myocardial infarction of other anterior wall initial episode of care
410.2	Acute myocardial infarction of inferolateral wall
410.20	Acute myocardial infarction of inferolateral wall episode of care unspecified
410.21	Acute myocardial infarction of inferolateral wall initial episode of care
410.3	Acute myocardial infarction of inferoposterior wall
410.30	Acute myocardial infarction of inferoposterior wall episode of care unspecified
410.31	Acute myocardial infarction of inferoposterior wall initial episode of care
410.4	Acute myocardial infarction of other inferior wall
410.40	Acute myocardial infarction of other inferior wall episode of care unspecified
410.41	Acute myocardial infarction of other inferior wall initial episode of care
410.5	Acute myocardial infarction of other lateral wall
410.50	Acute myocardial infarction of other lateral wall episode of care unspecified
410.51	Acute myocardial infarction of other lateral wall initial episode of care
410.6	True posterior wall infarction
410.60	True posterior wall infarction episode of care unspecified
410.61	True posterior wall infarction initial episode of care
410.7	Subendocardial infarction
410.70	Subendocardial infarction episode of care unspecified
410.71	Subendocardial infarction initial episode of care
410.8	Acute myocardial infarction of other specified sites
410.80	Acute myocardial infarction of other specified sites episode of care unspecified
410.81	Acute myocardial infarction of other specified sites initial episode of care
410.9	Acute myocardial infarction of unspecified site
410.90	Acute myocardial infarction of unspecified site episode of care unspecified
410.91	Acute myocardial infarction of unspecified site initial episode of care

## PNEUMONIA

Complication ICD-9 Code	Description
480	Viral pneumonia
480.0	Pneumonia due to adenovirus
480.1	Pneumonia due to respiratory syncytial virus
480.2	Pneumonia due to parainfluenza virus
480.3	Pneumonia due to sars-associated coronavirus
480.8	Pneumonia due to other virus not elsewhere classified
480.9	Viral pneumonia unspecifie
481	Pneumococcal pneumonia
482	Other Bacterial Pneumonia
482.0	Pneumonia due to klebsiella pneumoniae
482.1	Pneumonia due to pseudomonas
482.2	Pneumonia due to hemophilus influenzae (h. influenzae)
482.3	Pneumonia due to streptococcus
482.30	Pneumonia due to streptococcus unspecified
482.31	Pneumonia due to streptococcus group a
482.32	Pneumonia due to streptococcus group b
482.39	Pneumonia due to other streptococcus
482.4	Pneumonia due to staphylococcus
482.40	Pneumonia due to staphylococcus unspecified
482.41	Methicillin susceptible pneumonia due to staphylococcus aureus
482.42	Methicillin resistant pneumonia due to staphylococcus aureus
482.49	Other staphylococcus pneumonia
482.81	Pneumonia due to anaerobes
482.82	Pneumonia due to escherichia coli [e.coli]
482.83	Pneumonia due to other gram-negative bacteria
482.84	Pneumonia due to legionnaires' disease
482.89	Pneumonia due to other specified bacteria
482.9	Bacterial pneumonia unspecified
483	Pneumonia due to other specified organism
483.0	Pneumonia due to mycoplasma pneumoniae
483.1	Pneumonia due to chlamydia
483.8	Pneumonia due to other specified organism
485	Bronchopneumonia organism unspecified
486	Pneumonia organism unspecified
487.0	Influenza with pneumonia
507.0	Pneumonitis due to inhalation of food or vomitus

## SEPSIS/SEPTICEMIA

Complications ICD-9 Code	Description
03827	Septicemia
038.028,29	Streptococcal septicemia
038.12,3	Staphylococcal septicemia
038.102,3	Staphylococcal septicemia unspecified
038.112,3	Methicillin susceptible staphylococcus aureus septicemia
038.122,3	Methicillin resistant staphylococcus aureus septicemia
038.192,3	Other staphylococcal septicemia
038.22,3	Pneumococcal septicemia
038.32,3	Septicemia due to anerobes
038.42,3	Septicemia due to other gram-negative organisms
038.402,3	Septicemia due to gram negative organisms unspecified
038.412,3	Septicemia due to h. influenzae
038.422,3	Septicemia due to e. coli
038.432,3	Septicemia due to pseudomonas
038.442,3	Septicemia due to serratia
038.492,3	Other septicemia due to gram-negative organisms
038.82,3	Other specified septicemias
038.92,3	Unspecified septicemia
785.522,3	Septic shock
785.592,3	Other shock without trauma
790.7	Bacteremia
995.912,3	Systemic inflammatory response syndrome due to infectious process w/out organ dysfunction
995.922,3	Systemic inflammatory response syndrome due to infectious process with organ dysfunction
998.02,3	Postoperative shock not elsewhere classified
998.59	Post procedural sepsis

## PULMONARY EMBOLISM (PE)

Complication ICD-9 Code	Description
415.1	Pulmonary embolism and infarction
415.11	Iatrogenic pulmonary embolism and infarction
415.19	Other pulmonary embolism and infarction

## SURGICAL SITE BLEEDING

Complication ICD-9 Code*	Description
<a href="#">998.1</a>	Hemorrhage or hematoma complicating a procedure not elsewhere classified
<a href="#">998.11</a>	Hemorrhage complicating a procedure
<a href="#">998.12</a>	Hematoma complicating a procedure
<a href="#">998.13</a>	Seroma complicating a procedure
<a href="#">286.5</a>	Hemorrhagic disorder due to intrinsic circulating anticoagulants

## WOUND INFECTION

Complication ICD-9 Code*	Description
998.6	Persistent postoperative fistula not elsewhere classified
998.83	Non-healing surgical wound
998.3	Disruption of wound
998.30	Disruption of wound, unspecified
998.31	Disruption of internal operation (surgical) wound
998.32	Disruption of external operation (surgical) wound
998.33	Disruption of traumatic wound repair
998.5	Postoperative infection not elsewhere classified
998.51	Infected postoperative seroma
998.59	Other postoperative infection
996.67	Infection and inflammatory reaction due to other internal orthopedic device implant and graft

## INFECTION INVOLVING IMPLANT

Complication ICD-9 Code*	Description
<a href="#">996.6</a>	Infection and inflammatory reaction due to internal prosthetic device implant and graft
<a href="#">996.7</a>	Other complications due to internal prosthetic device, implant, and graft

## MECHANICAL COMPLICATIONS

Complication ICD-9 Code*	Description
<a href="#">996.4</a>	Mechanical complication of internal orthopedic device implant and graft
<a href="#">996.5</a>	Mechanical complication of other specified prosthetic device implant and graft
<a href="#">996.7</a>	Other complications due to internal prosthetic device, implant, and graft