

**Quality ID #21 (NQF 0268): Perioperative Care: Selection of Prophylactic Antibiotic – First OR Second-Generation Cephalosporin**  
– National Quality Strategy Domain: Patient Safety  
– Meaningful Measure Area: Healthcare-associated Infections

**2020 COLLECTION TYPE:**  
**MIPS CLINICAL QUALITY MEASURES (CQMS)**

**MEASURE TYPE:**  
Process – High Priority

**DESCRIPTION:**  
Percentage of surgical patients aged 18 years and older undergoing procedures with the indications for a first OR second-generation cephalosporin prophylactic antibiotic who had an order for a first OR second-generation cephalosporin for antimicrobial prophylaxis

**INSTRUCTIONS:**  
This measure is to be submitted **each time** a procedure is performed during the performance period for patients who undergo surgical procedures with the indications for a first or second-generation cephalosporin prophylactic antibiotic. There is no diagnosis associated with this measure. It is anticipated that Merit-based Incentive Payment System (MIPS) eligible clinicians who perform the listed surgical procedures as specified in the denominator coding will submit this measure.

**Measure Submission Type:**  
Measure data may be submitted by individual MIPS eligible clinicians, groups, or third party intermediaries. The listed denominator criteria are used to identify the intended patient population. The numerator quality-data codes included in this specification are used to submit the quality actions as allowed by the measure. The quality-data codes listed do not need to be submitted by MIPS eligible clinicians, groups, or third party intermediaries that utilize this modality for submissions; however, these codes may be submitted for those third party intermediaries that utilize Medicare Part B claims data. For more information regarding Application Programming Interface (API), please refer to the Quality Payment Program (QPP) website.

**DENOMINATOR:**  
All surgical patients aged 18 years and older undergoing procedures with the indications for a first OR second-generation cephalosporin prophylactic antibiotic.

**Denominator Instructions:**  
CPT Category I procedure codes billed by surgeons performing surgery on the same patient, submitted with modifier 62 (indicating two surgeons, i.e., dual procedures) will be included in the denominator population, therefore both surgeons will be fully accountable for the clinical action described in the measure.

**Denominator Criteria (Eligible Cases):**  
Patients aged  $\geq 18$  years on date of service

**AND**  
**Patient procedure during the performance period (CPT):** Listed below are surgical procedure codes with indications for first or second-generation cephalosporin prophylactic antibiotic

**Table 1: Surgical procedure codes with indications for first or second-generation cephalosporin prophylactic antibiotic**

SURGICAL PROCEDURE	CPT CODE
<b>Integumentary</b>	15733, 15734, 15736, 15738, 15830, 15832, 15833, 15834, 15835, 15836, 15837, 19300, 19301, 19302, 19303, 19305, 19306, 19307, 19316, 19318, 19324, 19325, 19328, 19330, 19340, 19342, 19350, 19355, 19357, 19361, 19364, 19366, 19367, 19368, 19369, 19370, 19371, 19380, 21601, 21602, 21603
<b>Spine</b>	22325, 22510, 22511, 22513, 22514, 22586, 22612, 22630, 22800, 22802, 22804, 63030, 63042
<b>Hip Reconstruction</b>	27125, 27130, 27132, 27134, 27137, 27138
<b>Trauma (Fractures)</b>	27235, 27236, 27244, 27245, 27269, 27758, 27759, 27766, 27769, 27792, 27814
<b>Knee Reconstruction</b>	27440, 27441, 27442, 27443, 27445, 27446, 27447
<b>Vascular</b>	27880, 27881, 27882, 27884, 27886, 27888, 33877, 33880, 33881, 33883, 33886, 33889, 33891, 34701, 34702, 34703, 34704, 34705, 34706, 34707, 34708, 34710, 34830, 34831, 34832, 34841, 34842, 34843, 34844, 34845, 34846, 34847, 34848, 35011, 35013, 35081, 35082, 35091, 35092, 35102, 35103, 35131, 35141, 35142, 35151, 35152, 35206, 35266, 35301, 35363, 35371, 35372, 35512, 35521, 35522, 35523, 35525, 35533, 35537, 35538, 35539, 35540, 35556, 35558, 35565, 35566, 35570, 35571, 35583, 35585, 35587, 35601, 35606, 35612, 35616, 35621, 35623, 35626, 35631, 35632, 35633, 35634, 35636, 35637, 35638, 35642, 35645, 35646, 35647, 35650, 35654, 35656, 35661, 35663, 35665, 35666, 35671, 36830, 36902, 36905, 37224, 37225, 37226, 37227, 37228, 37229, 37230, 37231, 37246, 37248, 37617
<b>Spleen and Lymph Nodes</b>	38100, 38101, 38115, 38120, 38571, 38572, 38700, 38720, 38724, 38740, 38745, 38760, 38765, 38770, 38780
<b>Esophagus</b>	43020, 43030, 43045, 43100, 43101, 43107, 43108, 43112, 43113, 43116, 43117, 43118, 43121, 43122, 43123, 43124, 43130, 43135, 43279, 43280, 43281, 43282, 43300, 43305, 43310, 43312, 43313, 43314, 43320, 43325, 43327, 43328, 43330, 43331, 43332, 43333, 43334, 43335, 43336, 43337, 43340, 43341, 43351, 43352, 43360, 43361, 43400, 43405, 43410, 43415, 43420, 43425, 43496
<b>Stomach</b>	43500, 43501, 43502, 43510, 43520, 43605, 43610, 43611, 43620, 43621, 43622, 43631, 43632, 43633, 43634, 43640, 43641, 43644, 43645, 43651, 43652, 43653, 43800, 43810, 43820, 43825, 43830, 43832, 43840, 43843, 43845, 43846, 43847, 43848, 43850, 43855, 43860, 43865, 43870, 43880
<b>Small Intestine</b>	44005, 44010, 44020, 44021, 44050, 44055, 44100, 44120, 44125, 44126, 44127, 44130, 44132, 44133, 44135, 44136
<b>Colon</b>	44140, 44141, 44143, 44144, 44145, 44146, 44147, 44150, 44151, 44155, 44156, 44157, 44158, 44160, 44180, 44186, 44187, 44188, 44202, 44204, 44205, 44206, 44207, 44208, 44210, 44211, 44212, 44227, 44300, 44310, 44312, 44314, 44316, 44320, 44322, 44340, 44345, 44346, 44602, 44603, 44604, 44605, 44615, 44620, 44625, 44626, 44640, 44650, 44660, 44661, 44680, 44700

<b>SURGICAL PROCEDURE</b>	<b>CPT CODE</b>
<b>Rectum</b>	45000, 45020, 45110, 45111, 45112, 45113, 45114, 45116, 45119, 45120, 45121, 45123, 45126, 45130, 45135, 45136, 45150, 45160, 45171, 45172, 45395, 45397, 45400, 45402, 45540, 45541, 45550, 45560, 45562, 45563, 45800, 45805, 45820, 45825
<b>Biliary</b>	47400, 47420, 47425, 47460, 47480, 47562, 47563, 47564, 47570, 47600, 47605, 47610, 47612, 47620, 47700, 47701, 47711, 47712, 47715, 47720, 47721, 47740, 47741, 47760, 47765, 47780, 47785, 47800, 47801, 47802, 47900
<b>Pancreas</b>	48000, 48001, 48020, 48100, 48102, 48105, 48120, 48140, 48145, 48146, 48148, 48150, 48152, 48153, 48154, 48155, 48500, 48510, 48520, 48540, 48545, 48547, 48548, 48554, 48556
<b>Abdomen, Peritoneum &amp; Omentum</b>	27080, 27158, 27202, 27280, 27282, 49000, 49002, 49010, 49020, 49040, 49060, 49203, 49204, 49205, 49215, 49220, 49250, 49320, 49321, 49322, 49323, 49405, 49406, 49407, 49505, 49507
<b>Renal Transplant</b>	50320, 50340, 50360, 50365, 50370, 50380
<b>Neurological Surgery</b>	22551, 22554, 22558, 22600, 22612, 22630, 22633, 61154, 61313, 61315, 61510, 61512, 61518, 61548, 61697, 61700, 61750, 61751, 61867, 62223, 62230, 63015, 63020, 63030, 63042, 63045, 63046, 63047, 63056, 63075, 63081, 63267, 63276
<b>Cardiothoracic Surgery</b>	33120, 33130, 33140, 33202, 33250, 33251, 33256, 33261, 33305, 33315, 33321, 33322, 33335, 33365, 33366, 33390, 33391, 33404, 33405, 33406, 33410, 33440, 33411, 33413, 33416, 33422, 33425, 33426, 33427, 33430, 33460, 33463, 33464, 33465, 33475, 33496, 33510, 33511, 33512, 33513, 33514, 33516, 33533, 33534, 33535, 33536, 33542, 33545, 33548, 33886, 35211, 35241, 35271
<b>General Thoracic Surgery</b>	0236T, 0505T, 21627, 21632, 21740, 21750, 21825, 31760, 31766, 31770, 31775, 31786, 31805, 32096, 32097, 32098, 32100, 32110, 32120, 32124, 32140, 32141, 32150, 32215, 32220, 32225, 32310, 32320, 32440, 32442, 32445, 32480, 32482, 32484, 32486, 32488, 32491, 32505, 32800, 32810, 32815, 32900, 32905, 32906, 32940, 33020, 33025, 33030, 33031, 33050, 33300, 33310, 33320, 33361, 33362, 33363, 33364, 34051, 35021, 35216, 35246, 35276, 35311, 35526, 37616, 38381, 39000, 39010, 39200, 39220, 39545, 39561, 64746
<b>Foot &amp; Ankle</b>	27702, 27703, 27704, 28192, 28193, 28291, 28415, 28420, 28445, 28465, 28485, 28505, 28525, 28531, 28555, 28585, 28615, 28645, 28675, 28705, 28715, 28725, 28730, 28735, 28737
<b>Laryngectomy</b>	31400, 31420
<b>Mediastinum and Diaphragm</b>	39501, 39540, 39541, 39545, 39560, 39561
<b>Bariatric</b>	43770, 43771, 43772, 43773, 43774, 43775, 43843, 43845, 43846, 43847, 43848, 43886, 43887, 43888
<b>Meckel's Diverticulum and Appendix</b>	44800, 44820, 44850, 44900, 44950, 44960, 44970
<b>Liver</b>	47100, 47120, 47122, 47125, 47130, 47140, 47141, 47142, 47350, 47370, 47371, 47380, 47381
<b>Gynecologic Surgery</b>	58150, 58152, 58180, 58200, 58210, 58240, 58260, 58262, 58263, 58267, 58270, 58275, 58280, 58285, 58290, 58291, 58292, 58293, 58294, 58951, 58953, 58954, 58956

SURGICAL PROCEDURE	CPT CODE
General Surgery	23470, 23472, 23473, 23474, 23616, 24363, 24370, 24371, 38531, 60505

**NUMERATOR:**

Surgical patients who had an order for a first OR second-generation cephalosporin for antimicrobial prophylaxis

**Numerator Instructions:**

There must be documentation of an order (written order, verbal order, or standing order/protocol) for a first OR second-generation cephalosporin for antimicrobial prophylaxis OR documentation that a first OR second-generation cephalosporin was given.

***NUMERATOR NOTE:*** *In the event surgery is delayed, as long as the patient is redosed (if clinically appropriate) the numerator coding should be applied.*

***G9197*** is provided for antibiotic ordered or antibiotic given. Submit ***G9197*** if a first or second-generation cephalosporin was given for antimicrobial prophylaxis.

**Numerator Options:**

***Performance Met:***

Documentation of order for first OR second-generation cephalosporin for antimicrobial prophylaxis (***G9197***)

**OR**

***Denominator Exception:***

Documentation of medical reason(s) for not ordering a first OR second-generation cephalosporin for antimicrobial prophylaxis (e.g., patients enrolled in clinical trials, patients with documented infection prior to surgical procedure of interest, patients who were receiving antibiotics more than 24 hours prior to surgery [except colon surgery patients taking oral prophylactic antibiotics], patients who were receiving antibiotics within 24 hours prior to arrival [except colon surgery patients taking oral prophylactic antibiotics], other medical reason(s)) (***G9196***)

**OR**

***Performance Not Met:***

Order for first OR second-generation cephalosporin for antimicrobial prophylaxis was not documented, reason not given (***G9198***)

**RATIONALE:**

Presence of antibiotics in the blood and tissue during and after surgery can prevent infection. Cephalosporins are currently the drug of choice for antimicrobial prophylaxis due to their broad-spectrum effect and low occurrence of adverse reactions.

**CLINICAL RECOMMENDATION STATEMENTS:**

For most procedures, cefazolin is the drug of choice for prophylaxis because it is the most widely studied antimicrobial agent, with proven efficacy. It has a desirable duration of action, spectrum of activity against organisms commonly encountered in surgery, reasonable safety, and low cost. (ASHP, 2013)

Cephalosporins and carbapenems should not be used for surgical prophylaxis in patients with documented or presumed IgE mediated penicillin allergy (e.g., anaphylaxis, urticaria, bronchospasm) (ASHP, 2013).

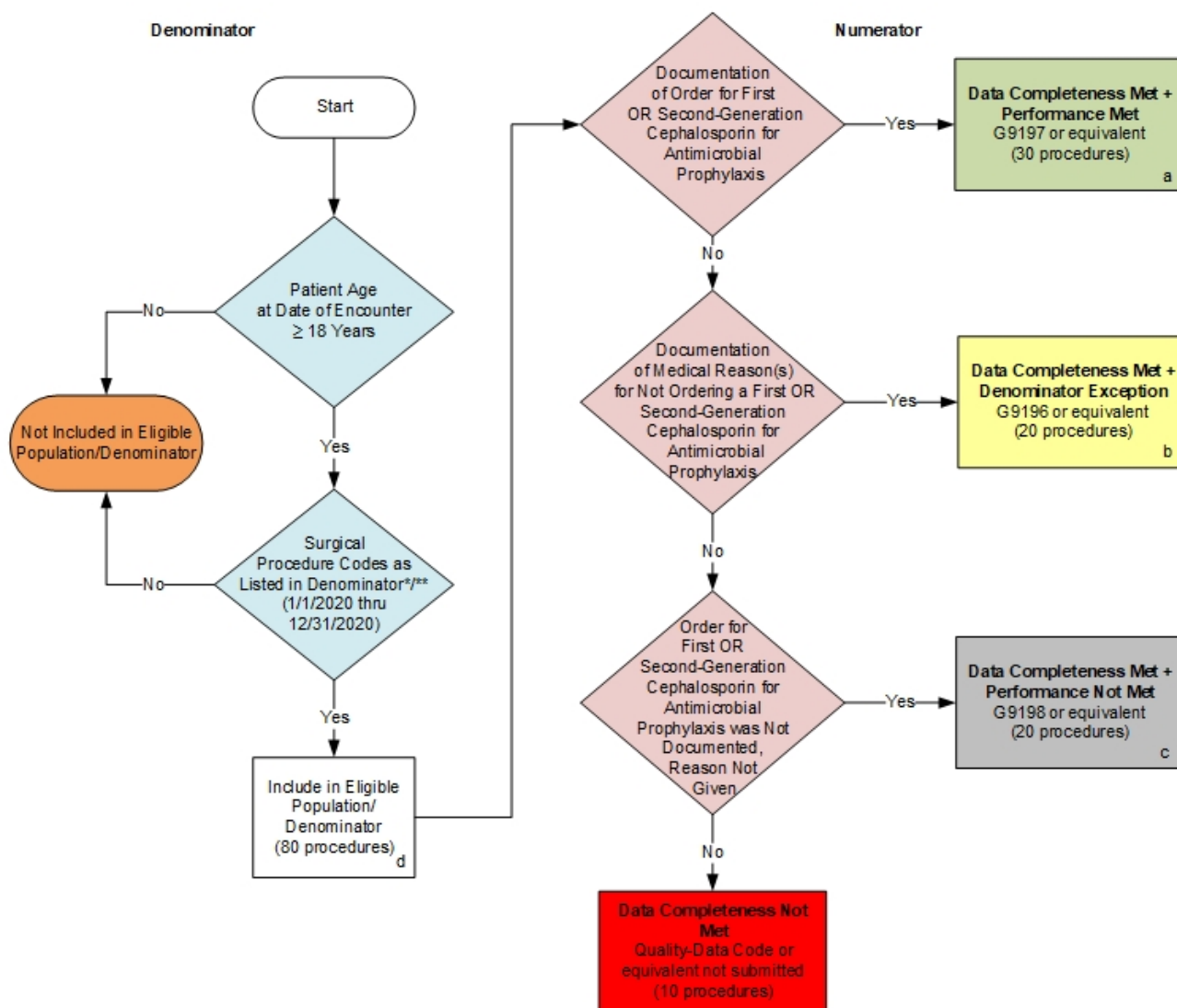
Cephalosporins and carbapenems can safely be used in patients with an allergic reaction to penicillins that is not an IgE mediated reaction or is not exfoliative dermatitis (Stevens-Johnson syndrome, toxic epidermal necrolysis), a life-threatening hypersensitivity reaction that can be caused by b-lactam antimicrobials and other medications. Patients should be carefully questioned about their history of antimicrobial allergies to determine whether a true allergy exists before selection of agents for prophylaxis. Patients with allergies to cephalosporins, penicillins, or both have been excluded from many clinical trials. Alternatives to b-lactam antimicrobials are provided in Table 2 [of the guideline] based mainly on the antimicrobial activity profiles against predominant procedure-specific organisms and available clinical data (ASHP, 2013).

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**2020 Clinical Quality Measure Flow for Quality ID #21 NQF #0268:  
Perioperative Care: Selection of Prophylactic Antibiotic -  
First OR Second Generation Cephalosporin**

*Disclaimer: Refer to the measure specification for specific coding and instructions to submit this measure.*



**SAMPLE CALCULATION S:**

**Data Completeness=**  

$$\frac{\text{Performance Met (a=30 procedures)} + \text{Denominator Exception (b=20 procedures)} + \text{Performance Not Met (c=20 procedures)}}{\text{Eligible Population / Denominator (d=80 procedures)}} = \frac{70 \text{ procedures}}{80 \text{ procedures}} = 87.50\%$$

**Performance Rate=**  

$$\frac{\text{Performance Met (a=30 procedures)}}{\text{Data Completeness Numerator (70 procedures) - Denominator Exception (b=20 procedures)}} = \frac{30 \text{ procedures}}{50 \text{ procedures}} = 60.00\%$$

\* See the posted measure specification for specific coding and instructions to submit this measure.

\*\* CPT Category I procedure codes billed by surgeons performing surgery on the same patient, submitted with modifier 62 (indicating two surgeons, i.e., dual procedures) will be included in the denominator population. Both surgeons participating will be fully accountable for the clinical action described in the measure.

NOTE: Submission Frequency: Procedure

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 The measure diagrams were developed by CMS as a supplemental resource to be used in conjunction with the measure specifications. They should not be used alone or as a substitution for the measure specification. v4

**2020 Clinical Quality Measure Flow Narrative for Quality ID #21 NQF #0268:  
Perioperative Care: Selection of Prophylactic Antibiotic -  
First OR Second-Generation Cephalosporin**

**Disclaimer:** Refer to the measure specification for specific coding and instructions to submit this measure.

1. Start with Denominator
2. Check Patient Age:
  - a. If Patient Age is greater than or equal to 18 Years on Date of Service equals No during the measurement period, do not include in Eligible Population. Stop Processing.
  - b. If Patient Age is greater than or equal to 18 Years on Date of Service equals Yes during the measurement period, proceed to check Surgical Procedure Codes.
3. Check Surgical Procedure Codes:
  - a. If Surgical Procedure Codes as Listed in the Denominator equals No, do not include in Eligible Population. Stop Processing.
  - b. If Surgical Procedure Codes as Listed in the Denominator equals Yes, include in Eligible
4. Population. Denominator Population:
  - a. Denominator Population is all Eligible Procedures in the Denominator. Denominator is represented as Denominator in the Sample Calculation listed at the end of this document. Letter d equals 80 procedures in the Sample Calculation.
5. Start Numerator
6. Check Documentation of Order for First OR Second-Generation Cephalosporin for Antimicrobial Prophylaxis:
  - a. If Documentation of Order for First OR Second-Generation Cephalosporin for Antimicrobial Prophylaxis equals Yes, include in Data Completeness Met and Performance Met.
  - b. Data Completeness Met and Performance Met letter is represented in the Data Completeness and Performance Rate in the Sample Calculation listed at the end of this document. Letter a equals 30 procedures in Sample Calculation.
  - c. If Documentation of Order for First OR Second-Generation Cephalosporin for Antimicrobial Prophylaxis equals No, proceed to check Documentation of Medical Reason(s) for Not Ordering a First OR Second-Generation Cephalosporin Antimicrobial Prophylaxis.
7. Check Documentation of Medical Reason(s) for Not Ordering a First OR Second-Generation Cephalosporin for Antimicrobial Prophylaxis:
  - a. If Documentation of Medical Reason(s) for Not Ordering a First OR Second-Generation Cephalosporin for Antimicrobial Prophylaxis equals Yes, include in Data Completeness Met and Denominator Exception.
  - b. Data Completeness Met and Denominator Exception letter is represented in the Data Completeness and Performance Rate in the Sample Calculation listed at the end of this document. Letter b equals 20 procedures in the Sample Calculation.

- c. If Documentation of Medical Reason(s) for Not Ordering a First OR Second-Generation Cephalosporin for Antimicrobial Prophylaxis equals No, proceed to check Order for First OR Second-Generation Cephalosporin for Antimicrobial Prophylaxis was Not Documented, Reason Not Given.
8. Check Order for First OR Second-Generation Cephalosporin for Antimicrobial Prophylaxis was Not Documented, Reason Not Given:
- a. If Order for First OR Second-Generation Cephalosporin for Antimicrobial Prophylaxis was Not Documented, Reason Not Given equals Yes, include in the Data Completeness Met and Performance Not Met.
  - b. Data Completeness Met and Performance Not Met letter is represented in the Data Completeness in the Sample Calculation listed at the end of this document. Letter c equals 20 procedures in the Sample Calculation.
  - c. If Order for First OR Second-Generation Cephalosporin for Antimicrobial Prophylaxis was Not Documented, Reason Not Given equals No, proceed to check Data Completeness Not Met.
9. Check Data Completeness Not Met:
- a. If Data Completeness Not Met, the Quality Data Code or equivalent was not submitted. 10 procedures have been subtracted from Data Completeness Numerator in the Sample Calculation.

**SAMPLE CALCULATIONS:**

**Data Completeness=**  

$$\frac{\text{Performance Met (a=30 procedures) + Denominator Exception (b=20 procedures) + Performance Not Met (c=20 procedures)}}{\text{Eligible Population / Denominator (d=80 procedures)}} = \frac{70 \text{ procedures}}{80 \text{ procedures}} = 87.50\%$$

**Performance Rate=**  

$$\frac{\text{Performance Met (a=30 procedures)}}{\text{Data Completeness Numerator (70 procedures) - Denominator Exception (b=20 procedures)}} = \frac{30 \text{ procedures}}{50 \text{ procedures}} = 60.00\%$$