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

2021 COLLECTION TYPE:
MEDICARE PART B CLAIMS

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 using Medicare Part B claims. 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 allowed by the measure on the claim form(s). All measure-specific coding should be submitted on the claim(s) representing the denominator eligible encounter and selected numerator option.

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 ≥ 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 procedures codes with indications for first or second-generation cephalosporin prophylactic antibiotic

SURGICAL PROCEDURE	CPT CODE
Integumentary	15733, 15734, 15736, 15738, 15830, 15832, 15833, 15834, 15835, 15836, 15837, 19300, 19301, 19302, 19303, 19305, 19306, 19307, 19316, 19318, 19325, 19328, 19330, 19340, 19342, 19350, 19355, 19357, 19361, 19364, 19367, 19368, 19369, 19370, 19371, 19380, 21601, 21602, 21603
Spine	22325, 22510, 22511, 22513, 22514, 22586, 22612, 22630, 22800, 22802, 22804, 63030, 63042
Hip Reconstruction	27125, 27130, 27132, 27134, 27137, 27138
Trauma (Fractures)	27235, 27236, 27244, 27245, 27269, 27758, 27759, 27766, 27769, 27792, 27814
Knee Reconstruction	27440, 27441, 27442, 27443, 27445, 27446, 27447
Vascular	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
Spleen and Lymph Nodes	38100, 38101, 38115, 38120, 38571, 38572, 38700, 38720, 38724, 38740, 38745, 38760, 38765, 38770, 38780
Esophagus	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
Stomach	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
Small Intestine	44005, 44010, 44020, 44021, 44050, 44055, 44100, 44120, 44125, 44126, 44127, 44130, 44132, 44133, 44135, 44136
Colon	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

SURGICAL PROCEDURE	CPT CODE
Rectum	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
Biliary	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
Pancreas	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
Abdomen, Peritoneum & Omentum	27080, 27158, 27202, 27280, 27282, 49000, 49002, 49010, 49020, 49040, 49060, 49203, 49204, 49205, 49215, 49250, 49320, 49321, 49322, 49323, 49405, 49406, 49407, 49505, 49507
Renal Transplant	50320, 50340, 50360, 50365, 50370, 50380
Neurological Surgery	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
Cardiothoracic Surgery	33120, 33130, 33140, 33202, 33250, 33251, 33256, 33261, 33305, 33315, 33321, 33322, 33335, 33365, 33366, 33390, 33391, 33404, 33405, 33406, 33410, 33411, 33413, 33416, 33422, 33425, 33426, 33427, 33430, 33440, 33460, 33463, 33464, 33465, 33475, 33496, 33510, 33511, 33512, 33513, 33514, 33516, 33533, 33534, 33535, 33536, 33542, 33545, 33548, 33886, 35211, 35241, 35271
General Thoracic Surgery	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
Foot & Ankle	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
Laryngectomy	31400, 31420
Mediastinum and Diaphragm	39501, 39540, 39541, 39545, 39560, 39561
Bariatric	43770, 43771, 43772, 43773, 43774, 43775, 43843, 43845, 43846, 43847, 43848, 43886, 43887, 43888
Meckel's Diverticulum and Appendix	44800, 44820, 44850, 44900, 44950, 44960, 44970
Liver	47100, 47120, 47122, 47125, 47130, 47140, 47141, 47142, 47350, 47370, 47371, 47380, 47381
Gynecologic Surgery	58150, 58152, 58180, 58200, 58210, 58240, 58260, 58262, 58263, 58267, 58270, 58275, 58280, 58285, 58290, 58291, 58292, 58294, 58951, 58953, 58954, 58956
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 Quality-Data Coding Options:**
> **Documentation of Order for First or Second-Generation Cephalosporin for Antimicrobial Prophylaxis (written order, verbal order, or standing order/protocol)**
> *Performance Met:* **G9197:**   Documentation of order for first OR second-generation cephalosporin for antimicrobial prophylaxis

OR

> **Order for First or Second-Generation Cephalosporin not Ordered for Medical Reasons**
> *Denominator Exception:* **G9196***:*   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))

OR

> **Order for First or Second-Generation Cephalosporin not Ordered, Reason Not Given**
> *Performance Not Met:* **G9198:**   Order for first OR second-generation cephalosporin for antimicrobial prophylaxis was not documented, reason not given

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
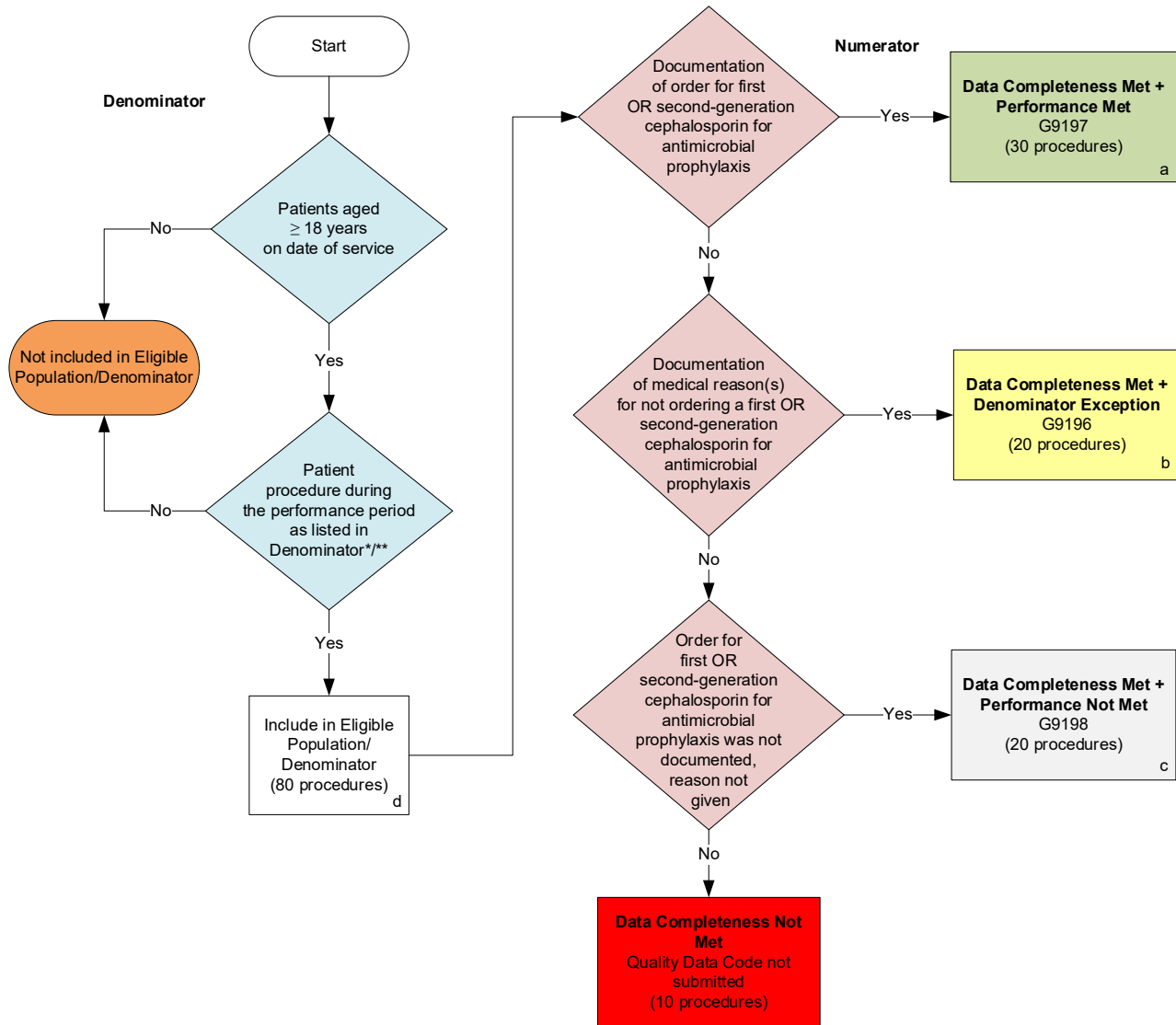
IgE mediated reaction or is not exfoliative dermatitis (Stevens-Johnson syndrome, toxic epidermal necrolysis) a life-threatening hypersensitivity reaction that can be caused by b-lactam antimicrobials and other medications. Patients should be carefully questioned about their history of antimicrobial 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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2021 Medicare Part B Claims 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.

Start

Denominator

Patients aged ≥ 18 years on date of service
- No → Not included in Eligible Population/Denominator
- Yes ↓

Patient procedure during the performance period as listed in Denominator*/
- No → Not included in Eligible Population/Denominator
- Yes ↓

Include in Eligible Population/Denominator (80 procedures) d

Numerator

Documentation of order for first OR second-generation cephalosporin for antimicrobial prophylaxis
- Yes → **Data Completeness Met + Performance Met** G9197 (30 procedures) a
- No ↓

Documentation of medical reason(s) for not ordering a first OR second-generation cephalosporin for antimicrobial prophylaxis
- Yes → **Data Completeness Met + Denominator Exception** G9196 (20 procedures) b
- No ↓

Order for first OR second-generation cephalosporin for antimicrobial prophylaxis was not documented, reason not given
- Yes → **Data Completeness Met + Performance Not Met** G9198 (20 procedures) c
- No ↓

Data Completeness Not Met Quality Data Code not submitted (10 procedures)

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=

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

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* 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

2021 Medicare Part B Claims 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 *Patients aged greater than or equal to 18 years on date of service*:

    a. If *Patients aged greater than or equal to 18 years on date of service* equals No, do not include in *Eligible Population/Denominator*. Stop processing.

    b. If *Patients aged greater than or equal to 18 years on date of service* equals Yes, proceed to check *Patient procedure during the performance period as listed in Denominator*/**.*

3. Check *Patient procedure during the performance period as listed in Denominator*/***:

    a. If *Patient procedure during the performance period as listed in Denominator*/*** equals No, do not include in *Eligible Population/Denominator*. Stop processing.

    b. If *Patient procedure during the performance period as listed in Denominator*/*** equals Yes, include in *Eligible Population/Denominator*.

4. Denominator Population:

    -   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*.

        -   *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 the Sample Calculation.

    b. 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 for 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*.

        -   *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.

b. If *Documentation of medical reason(s) for not ordering a first OR second-generation cephalosporin 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 *Data Completeness Met and Performance Not Met*.

        • *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.

    b. 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*:

        • If *Data Completeness Not Met*, the Quality Data Code was not submitted. 10 procedures have been subtracted from the Data Completeness Numerator in the Sample Calculation.

Sample Calculations

Data Completeness equals Performance Met (a equals 30 procedures) plus Denominator Exception (b equals 20 procedures) plus Performance Not Met (c equals 20 procedures) divided by Eligible Population/Denominator (d equals 80 procedures). All equals 70 procedures divided by 80 procedures. All equals 87.50 percent.

Performance Rate equals Performance Met (a equals 30 procedures) divided by Data Completeness Numerator (70 procedures) minus Denominator Exception (b equals 20 procedures). All equals 30 procedures divided by 50 procedures. All equals 60.00 percent.

* 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

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.