Measure #21 (NQF 0268): Perioperative Care: Selection of Prophylactic Antibiotic – First OR Second Generation Cephalosporin – National Quality Strategy Domain: Patient Safety

<u>2017 OPTIONS FOR INDIVIDUAL MEASURES:</u>
REGISTRY ONLY

<u>MEASURE TYPE:</u>
Process

<u>DESCRIPTION:</u>
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

<u>INSTRUCTIONS:</u>
This measure is to be reported **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 eligible clinicians who perform the listed surgical procedures as specified in the denominator coding will submit this measure.

Measure Reporting:
The listed denominator criteria is 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. All measure-specific coding should be reported on the claim(s) representing the eligible encounter.

<u>DENOMINATOR:</u>
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..

> <u>Denominator Criteria (Eligible Cases):</u>
> Patients aged ≥ 18 years on date of encounter
> <u>AND</u>
> Patient procedure during the **performance period** (CPT): Listed below are surgical procedures with indications for first or second generation cephalosporin prophylactic antibiotic

> Table 1: Surgical procedures with indications for first or second generation cephalosporin prophylactic antibiotic

SURGICAL PROCEDURE	CPT CODE
Integumentary	15732, 15734, 15736, 15738, 15830, 15832, 15833, 15834, 15835, 15836, 15837, 19260, 19271, 19272, 19300, 19301, 19302, 19303, 19304, 19305, 19306, 19307, 19316, 19318, 19324, 19325, 19328, 19330, 19340, 19342, 19350, 19355, 19357, 19361, 19364, 19366, 19367, 19368, 19369, 19370, 19371, 19380

SURGICAL PROCEDURE	CPT CODE
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, 34800, 34802, 34803, 34804, 34805, 34812, 34820, 34825, 34830, 34831, 34832, 34833, 34834, 34841, 34842, 34843, 34844, 34845, 34846, 34847, 34848, 34900, 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, 35572, 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, 37247, 37248, 37249, 37617
Spleen and Lymph Nodes	38100, 38101, 38115, 38120, 38571, 38572, 38700, 38720, 38724, 38740, 38745, 38747, 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, 43401, 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
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

SURGICAL PROCEDURE	CPT CODE
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, 49220, 49250, 49320, 49321, 49322, 49323, 49405, 49406, 49407, 49505, 49507, 49568
Renal Transplant	50320, 50340, 50360, 50365, 50370, 50380
Neurological Surgery	22551, 22554, 22558, 22600, 22612, 22630, 22633, 61154, 61312, 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, 33141, 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, 33460, 33463, 33464, 33465, 33475, 33496, 33510, 33511, 33512, 33513, 33514, 33516, 33530, 33533, 33534, 33535, 33536, 33542, 33545, 33548, 35211, 35241, 35271
General Thoracic Surgery	0236T, 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, 32506, 32507, 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, 38746, 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, 44955, 44960, 44970
Liver	47100, 47120, 47122, 47125, 47130, 47140, 47141, 47142, 47350, 47370, 47371, 47380, 47381
Gynecologic Surgery	57267, 58150, 58152, 58180, 58200, 58210, 58240, 58260, 58262, 58263, 58267, 58270, 58275, 58280, 58285, 58290, 58291, 58292, 58293, 58294, 58951, 58953, 58954, 58956
General Surgery	23470, 23472, 23473, 23474, 23616, 24363, 24370, 24371, 60505

<u>NUMERATOR:</u>
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.*
>
> <u>Numerator Options:</u>
> *Performance Met:* Documentation of order for first OR second generation cephalosporin for antimicrobial prophylaxis **(G9197)**
>
> *Note: G9197 is provided for antibiotic ordered or antibiotic given. Report G9197 if a first or second generation cephalosporin was given for antimicrobial prophylaxis.*

<u>OR</u>

> *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)**

<u>OR</u>

> *Performance Not Met:* Order for first OR second generation cephalosporin for antimicrobial prophylaxis was not documented, reason not given **(G9198)**

<u>RATIONALE:</u>
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.

<u>CLINICAL RECOMMENDATION STATEMENTS:</u>
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)

In operations for which cephalosporins represent appropriate prophylaxis, alternative antimicrobials should be provided to those with a high likelihood of serious adverse reaction or allergy on the basis of patient history or diagnostic tests such as skin testing.
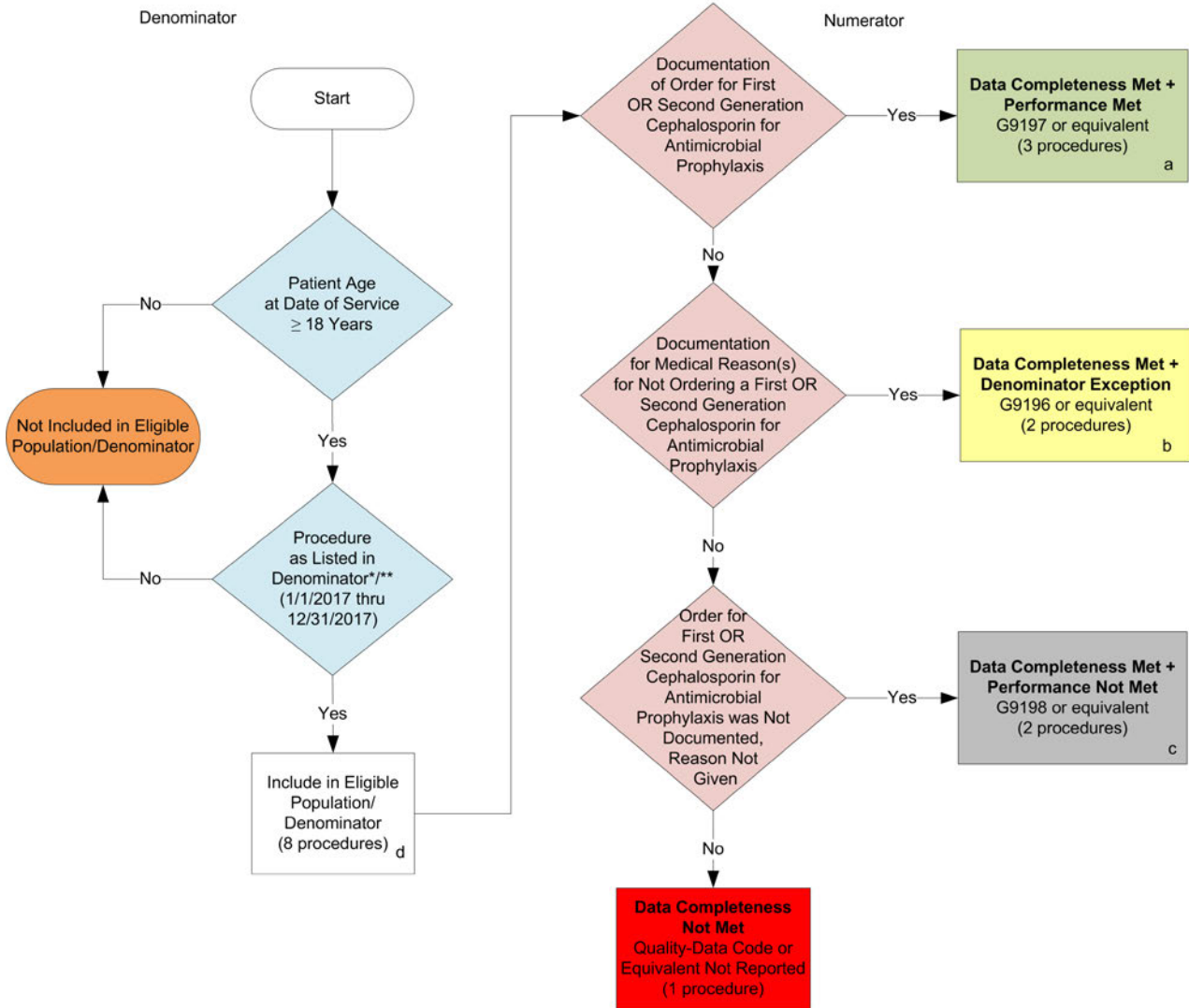
The preferred antimicrobials for prophylaxis in patients undergoing hip or knee arthroplasty are cefazolin and cefuroxime. Vancomycin or clindamycin may be used in patients with serious allergy or adverse reactions to β-lactams.

The recommended antimicrobials for cardiothoracic and vascular operations include cefazolin or cefuroxime. For patients with serious allergy or adverse reaction to β-lactams, vancomycin is appropriate, and clindamycin may be an acceptable alternative. (SIPGWW, 2004)

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2017 Registry Individual Measure Flow
#21 NQF #0268: Perioperative Care: Selection of Prophylactic Antibiotic - First OR Second Generation Cephalosporin

Denominator

Numerator

Start

Patient Age at Date of Service ≥ 18 Years

No → Not Included in Eligible Population/Denominator

Yes ↓

Procedure as Listed in Denominator*/** (1/1/2017 thru 12/31/2017)

No → Not Included in Eligible Population/Denominator

Yes ↓

Include in Eligible Population/ Denominator (8 procedures) d

Documentation of Order for First OR Second Generation Cephalosporin for Antimicrobial Prophylaxis

Yes → **Data Completeness Met + Performance Met** G9197 or equivalent (3 procedures) a

No ↓

Documentation for Medical Reason(s) for Not Ordering a First OR Second Generation Cephalosporin for Antimicrobial Prophylaxis

Yes → **Data Completeness Met + Denominator Exception** G9196 or equivalent (2 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 or equivalent (2 procedures) c

No ↓

Data Completeness Not Met Quality-Data Code or Equivalent Not Reported (1 procedure)

SAMPLE CALCULATIONS:

Data Completeness=

$$\frac{\text{Performance Met (a=3 procedures) + Denominator Exception (b=2 procedures) + Performance Not Met (c=2 procedures)}}{\text{Eligible Population / Denominator (d=8 procedures)}} = \frac{\text{7 procedures}}{\text{8 procedures}} = 87.50\%$$

Performance Rate=

$$\frac{\text{Performance Met (a=3 procedures)}}{\text{Data Completeness Numerator (7 procedures) – Denominator Exception (b=2 procedures} = \text{5 procedures}} = \frac{\text{3 procedures}}{} = 60.00\%$$

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* See the posted Measure Specification for specific coding and instructions to report 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: Reporting Frequency: Procedure

v1

Please refer to the specific section of the Measure Specification to identify the denominator and numerator information for use in reporting this Individual Measure.

1. Start with Denominator

2. Check Patient Age:

    a. If the Age greater than or equal to 18 years of age on Date of Service equals No during the measurement period, do not include in Eligible Patient Population. Stop Processing.

    b. If the Age greater than or equal to 18 years of age on Date of Service equals Yes during the measurement period, proceed to check Surgical Codes.

3. Check Surgical Codes:

    a. If Surgical Codes as Listed in the Denominator equals No, do not include in Eligible Patient Population. Stop Processing.

    b. If Surgical Codes as Listed in the Denominator equals Yes, include in the Eligible population.

4. Denominator Population:

    a. Denominator population is all Eligible Patients in the denominator. Denominator is represented as Denominator in the Sample Calculation listed at the end of this document. Letter d equals 8 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 3 procedures in Sample Calculation.

    c. If Documentation of Order for First OR Second Generation Cephalosporin for Antimicrobial Prophylaxis equals No, proceed to Documentation for Medical Reason(s) for Not Ordering a First OR Second Generation Cephalosporin Antimicrobial Prophylaxis.

7. Check Documentation for Medical Reason(s) for Not Ordering a First OR Second Generation Cephalosporin for Antimicrobial Prophylaxis:

    a. If Documentation for 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 2 procedures in the Sample Calculation.

c. If Documentation for Medical Reason(s) for Not Ordering a First OR Second Generation Cephalosporin for Antimicrobial Prophylaxis equals No, proceed to 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 2 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 Data Completeness Not Met.

9. Check Data Completeness Not Met:

   a. If Data Completeness Not Met equals No, Quality Data Code not reported. 1 procedure has been subtracted from data completeness numerator in the sample calculation.

SAMPLE CALCULATIONS:

Data Completeness=

$$\frac{\text{Performance Met (a=3 procedures) + Denominator Exception (b=2 procedures) + Performance Not Met (c=2 procedures)}}{\text{Eligible Population / Denominator (d=8 procedures)}} = \frac{7 \text{ procedures}}{8 \text{ procedures}} = 87.50\%$$

Performance Rate=

$$\frac{\text{Performance Met (a=3 procedures)}}{\text{Data Completeness Numerator (7 procedures) – Denominator Exception (b=2 procedures}} = \frac{3 \text{ procedures}}{5 \text{ procedures}} = 60.00\%$$