ACS NSQIP Ped

National Surgical Quality Improvement Program Pediatric
American College of Surgeons

# User Guide for the 2025 ACS NSQIP Pediatric Procedure Targeted Participant Use Data File (PUF)

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# 1. Introduction

This document is designed to accompany the 2025 Pediatric Procedure Targeted Participant Use Data File (PUF) available for download on the American College of Surgeons National Surgical Quality Improvement Program Pediatric (ACS NSQIP Pediatric) website (https://www.facs.org/quality-programs/data-and-registries/pediatric/). The sections contained herein will provide the user with information on how to request the Pediatric Procedure Targeted PUF, the contents of the data files, the data collection background, the inclusion and exclusion criteria for cases and hospitals, the data limitations, and the data point definitions and descriptions.

This user guide applies specifically to the 2025 Pediatric Procedure Targeted PUF. Hospitals utilizing the Pediatric PUF from a different year should refer to the user guide specifically tailored to that particular data set.

# 2. Merging Cases with the ACS NSQIP Pediatric PUF

Using the unique CASE ID variable, target-specific variables can be merged to the main ACS NSQIP Pediatric PUF.

# 3. Data Request Process

An individual who has an official appointment at a fully enrolled Pediatric site and wants to obtain a copy of any of the Pediatric Procedure Targeted PUF(s) can do so by visiting https://www.facs.org/quality-programs/data-and-registries/pediatric/participant-use-data-file/ and following the steps below:

1. From the ACS NSQIP Pediatric PUF main page the requestor can scroll down towards the bottom of the page after the PUF descriptions.
2. The requestor can then click on the navy blue “Request Data Set” box.
3. This will take the requestor to the Data Use Agreement. This is a 3-page document that implements the data protections of the Health Insurance Portability and Accountability Act of 1996 (HIPAA) and the ACS NSQIP Hospital Participation Agreement. Delivery of the PUF is contingent on agreement to the terms and conditions specified within the Data Use Agreement. The requestor can read the Data Use Agreement from this page or download the 3-page document. The requestor is then required to type in their first and last name and click on “Request

Data File." By clicking on "Request Data File" the requestor agrees to the terms and conditions of the Data Use Agreement.

4. Requestors will then be required to complete a brief online form to provide ACS with basic information about themselves, including the participating hospital in which they are currently employed and in what capacity, as well as how the requestor plans on using the Pediatric PUF data. Once all of the required fields are completed, the requestor clicks "Submit."
5. ACS NSQIP staff will review the request in a timely manner. Program contacts at participating sites will be contacted at this time to confirm the requestor's affiliation with the hospital and confirm internal approval of the PUF request.
6. Following receipt and confirmation of the information submitted, an email will be sent to the requestor containing a username and password along with the URL to download the data. The web link will be active from the time of the email for 30 full days.
7. The file will be available in 3 different formats (Text, SAS, SPSS) and depending on the connection speed should take between 5 and 30 minutes to download.
8. The requestor may be contacted to confirm receipt of the data file and allow for feedback on the delivery mechanism, data points contained, and data file format.

# 4. File Description

Each fall a Pediatric PUF will be made available for the previous calendar year's data. The Pediatric Procedure Targeted PUF is available in one of three different formats – Text, SAS, and SPSS. A brief description of the different formats follows:

| File Name | Type | File Size | Variables | Cases | Sites |
|---|---|---|---|---|---|
| PEDS_TAR_APPY_2025 | TXT | 3.9 MB | 23 | 25,141 | 145 |
| | SAS | 7.6 MB | 23 | 25,141 | 145 |
| | SPSS | 9.4 MB | 23 | 25,141 | 145 |
| PEDS_TAR_SPINE_2025 | TXT | 576 KB | 17 | 7,485 | 138 |
| | SAS | 1.5 MB | 17 | 7,485 | 138 |
| | SPSS | 1.6 MB | 17 | 7,485 | 138 |
| PEDS_TAR_VUR_2025 | TXT | 311 KB | 15 | 2,202 | 136 |
| | SAS | 1.0 MB | 15 | 2,202 | 136 |
| | SPSS | 1.1 MB | 15 | 2,202 | 136 |

| File Name | Type | File Size | Variables | Cases | Sites |
|---|---|---|---|---|---|
| PEDS_TAR_GTUBE_2025 | TXT | 496 KB | 13 | 8,360 | 149 |
| | SAS | 2.1 MB | 13 | 8,360 | 149 |
| | SPSS | 2.3 MB | 13 | 8,360 | 149 |

# 5. Data Collection Background and Data Quality

The ACS NSQIP Pediatric collects data on over 150 variables, including preoperative risk factors, intraoperative variables, and 30-day postoperative mortality and morbidity outcomes for patients undergoing major surgical procedures in both the inpatient and outpatient setting. A site's trained and certified Surgical Clinical Reviewer (SCR) captures these data using a variety of methods including medical chart abstraction.

Required data variables are entered via web-based data collection to the ACS NSQIP Pediatric website. Portions of the data may be automatically populated by a software program that was developed to extract data from the participating hospital's existing information systems. Requestors should contact the SCR(s) at their hospital for detailed information on how the hospital collects its ACS NSQIP Pediatric data.

To ensure the data collected are of the highest quality, the ACS NSQIP Pediatric has developed a host of different training mechanisms for the SCRs and conducts a Data Audit of selected participating sites. In addition to an initial web-based training program, the ACS NSQIP Pediatric requires SCRs to complete a series of web-based training modules followed by a certification exam that must be taken annually. The modules and certification exam focus on the program, processes, and analysis; preoperative, intraoperative, and postoperative definitions; and case studies. These modules are complemented by a growing online decision support system that ensures the SCRs have the knowledge and resources available to collect high-quality data.

The Data Audit is a fundamental tool of ACS NSQIP Pediatric to assess the quality of the data collected at participating sites. The process involves the review of multiple charts, some of which are selected randomly and others selected based on criteria designed to identify potential reporting errors. For example, cases with five or more preoperative risk factors and no reported mortality or morbidity or cases with two or fewer preoperative risk

factors and reported mortality or morbidity will be selected for chart review. Operating room logs are also audited to ensure correct sampling of cases.

The combined results of the audits completed to date revealed an overall disagreement rate of approximately 2% for all assessed program variables. The ACS NSQIP Pediatric has determined that a Data Audit disagreement rate of 5% or less is acceptable. Sites that have higher than a 5% disagreement rate are not provided a hospital odds ratio in the ACS NSQIP Pediatric Semiannual Report and may be required to undergo an additional audit following recommendations from the ACS NSQIP Pediatric.

# 6. Sampling Process and Case Exclusion Criteria

### *Systematic Sampling Process*

Large surgical services normally experience a significant volume of surgical cases. This presents the SCRs with the problem of managing an overwhelming workload. Therefore, a systematic sampling system called the 8-day cycle was developed to prevent bias in choosing cases for assessment. The SCR uses the 8-day cycle to select completed cases from the hospital's final operative log. The final operative log includes any emergent, urgent or add-on procedures that were performed and excludes any scheduled procedures that were not performed. The operative log is sorted by the date of the operation, "Patient In Room" time, and finally Operating Room Suite Number. The 8-day cycle schedule works as follows: If the first cycle begins on a Monday, it continues through to include the following Monday (an 8-day period of time). The next cycle begins on Tuesday and continues through to include the following Tuesday, and so on. There are 46 8-day cycles in 1 year, and the program recommends that data be submitted for 40 of those cycles. The process ensures that cases have an equal chance of being selected from each day of the week.

Hospitals with a high volume of surgical cases capture the first 35 consecutive cases meeting the inclusion/exclusion criteria in the 8-day cycle following the systematic sampling guidelines.

### *Case Inclusion Criteria*

The following inclusion criteria were applied to cases collected in 2025. For the current inclusion/exclusion criteria please contact the ACS NSQIP Pediatric Clinical Support Team at clinicalsupport@pediatric.acsnsqip.org.

- The ACS NSQIP Pediatric includes all cases with CPT codes that are listed on the CPT inclusion list.

### *Case Exclusion Criteria*

The following exclusion criteria were applied to cases collected in 2025. For the current inclusion/exclusion criteria please contact the ACS NSQIP Pediatric Clinical Support Team at clinicalsupport@pediatric.acsnsqip.org.

- Patients 18 years of age, or older.
- Cases involving Hyperthermic Intraperitoneal Chemotherapy (HIPEC), regardless of if the procedure performed has an included CPT code(s).
- ASA 6 – (Declared brain-dead patient whose organs are being removed for donor purposes).
- Concurrent Case – An additional operative procedure performed by **a different surgical team** (e.g., a different specialty/service) **under the same anesthetic**. An additional operative procedure with a CPT code different from that of the Primary Procedure performed by a different surgical team under the same anesthetic is listed as a concurrent procedure. A concurrent procedure is not included.
- Multiple cases within 30 days – Multiple cases for the same patient within 30 days are excluded. (Only one case, per patient, per 30-day time frame can be abstracted for NSQIP-PEDs).
- Exclude a return to the operating room/ICU setting as the primary procedure, if it is related to an occurrence or complication from any procedure (surgical or otherwise) regardless of where the procedure was performed, within 30 days or within the same admission.
- Exclude a procedure performed by a surgical service not reviewed in Pediatric NSQIP.
- Transplant Cases – Specifically: A patient who is admitted to the hospital for solid organ transplant surgery, and has additional surgical procedures performed during the same hospital stay, is excluded. Any operation performed after the patient has been discharged from the transplant stay is included**.**
- **Trauma and Abuse Cases**: Any case caused by a trauma or abuse with a principal ICD-10 diagnostic code within the ranges of S00-T14, T20-T79, T83-T85, and V00-Y99 will be excluded from sampling.
    - **Exception to Trauma/Abuse criteria**: When not caused by abuse, include trauma cases with included CPT codes that involve a fracture to a single limb section, with no other injuries. Capture cases with a single break, even if it crosses over multiple bones.

- Exclude any surgical procedure related to the index trauma procedure(s) which occur during the same hospitalization. Any operation performed after the patient has been discharged from the trauma stay will be included if they meet NSQIP-Pediatric program inclusion criteria.
- Exclude any subsequent surgical procedure that is a direct result of abuse, regardless of timeframe.

***Hospital Exclusion Criteria***

In addition to the case inclusion/exclusion criteria, hospital inclusion/exclusion criteria are also imposed. To maintain the highest level of data quality, only cases included in the odds ratio analysis are included in the Pediatric PUF. These cases go through an additional level of scrutiny as they are passed from data collection to statistical analysis. Sites that exhibit issues with either data quality or 30-day follow-up are reviewed for exclusion to ensure the integrity of PUF data.

***Case Selection***

Step 1: Collect Procedure Targeted Cases with Procedure Specific Variables

- Once cases meeting criteria for inclusion have been identified, the Procedure Targeted cases with procedure specific variables are selected first, as they occur in consecutive order, utilizing the procedure targeted CPT list.
    - Each of these cases has a limit of 4 per 8-day cycle. These cases include:
        - Appendectomy
        - Spinal Fusion
        - Vesicoureteral Reflux
        - Tracheostomy
        - Gastrostomy Tube

Step 2: Collect Procedure Targeted Cases without Procedure Specific Variables

- Next, all possible Procedure Targeted cases without procedure specific variables are selected, in consecutive order, utilizing the procedure targeted CPT list. The Procedure Targeted CPT Code Inclusion List is located in the appendices section of the Operations Manual.
- There is a 4 case per cycle limit for Gastrostomy and Laparoscopic Cholecystectomy procedures.

Step 3: Collect Surgical Specialty Cases

- If, after selecting all procedure targeted cases as outlined above, the cycle does not meet 35 cases, the hospital will now select all remaining surgical specialty cases, as they occurred in consecutive order, utilizing the Full CPT list.
- At this point in case selection, case limits on procedure targeted cases are still maintained (only four cases for appendectomy, spinal fusion, CSF shunt, vesicoureteral reflux, tracheostomy, gastrostomy and laparoscopic cholecystectomy).
- Collect all cases until reaching a total of 35 cases.

Step 4: Rounding Out Your Cases to Achieve 35 Cases per Cycle

- If less than 35 cases are abstracted for a cycle after a hospital selects all cases as described in steps 1-3 above, a hospital may opt to collect additional cases to round up to 35 cases utilizing the following process, or they may choose to identify the cycle as “Max cases” under the “Manage Cycles” section of the “My Account” tab in the Workstation.
- If the cycle does not total 35 cases after following the three previous steps, the hospital may opt to “Max Cases” or may continue to capture additional cases of the “limited procedures” Appendectomy, Spinal Fusion, CSF Shunt, VUR, Laparoscopic Cholecystectomy, Gastrostomy, and Tracheostomy, while still following the current sampling methodology (primary procedure, only one case per patient per 30 days, etc).
- If the cycle still does not total 35 cases, the hospital will identify the cycle as “Max Cases” in the workstation.

# 7. Data Limitations

While every effort has been made to make the Pediatric PUF as complete as possible, the data do have certain limitations. Some of these limitations have been deliberately introduced to safeguard the privacy of patients (such as removal of absolute dates). Other limitations are due to resource constraints (such as the collection of generic surgical variables only). The following items represent the most salient limitations of the data:

- Because such a wide variety of operations are tracked, the variables are necessarily generic in nature. This limitation may pose difficulties for researchers attempting in-depth research on specific conditions or operations. However, surgical Targeted PUF

datasets are now available which address target-specific predictors and outcomes for many types of operations.

- Patients are followed after surgery for a maximum of 30 days. Complications or death after that period are not included.

- To comply with HIPAA requirements, all absolute dates have been removed. The most critical of these is the date of surgery, which has been reduced to year of surgery only. Some dates (hospital entry, dates of laboratory tests, and so on) have been recoded into durations e.g. Date of Admission and Date of Discharge is recoded into Hospital Length of Stay.

- In order to comply with the Hospital Participation Agreement (HPA) that is agreed to between the ACS and participating sites, facility identifiers as well as geographic information regarding the case have been removed. The HPA stipulates that the ACS does not identify participating sites. Site identification could be possible even with blinded identifiers through advanced statistics. A stipulation of access to the Pediatric PUF is completion of the Data Use Agreement that strictly prohibits attempts to identify hospitals, health care providers, or patients.

- While many risk factors are tracked, preventative measures are not recorded which can lead to an overestimation of the risk of certain conditions when such measures are routinely taken before surgery.

- The data are submitted from hospitals that are participating in the ACS NSQIP Pediatric and do not represent a statistically valid nationally representative sample. Furthermore, the PUF includes international sites so the data would not strictly represent the situation in U.S. hospitals. The inclusion of international sites may lead to other problems in interpretation. For example, many international sites are not permitted to provide patient race and ethnicity. As such, observed effects of missing race/ethnicity on outcomes would be confounded with the effects of country.

- Most patients do not receive all possible preoperative laboratory tests, so some of these variables have a high percentage of missing values (50% to 87%, depending on the tests). This high percentage of missing data can make it problematic to use these variables in a traditional logistic regression model as well as in many other types of analysis.

This list may not include all data limitations and additional limitations may apply in future versions of the data.

# 8. Contact Information

All questions about the Pediatric Procedure Targeted User Guide or PUF, as well as comments and suggestions for improvements are welcome and may be directed to Brian Matel, ACS NSQIP Statistical Reports Manager via email at bmatel@facs.org.

# 9. Frequently Asked Questions

***Request Process***

Q: Who has access to this file?
A: Any individual with an official appointment at a fully participating pediatric site will be given access to the file following completion of the Data Use Agreement and a short set of questions that are available on the website.

Q: Is the file available to individuals from nonparticipating sites?
A: At this time the data files are only available to individuals with official appointments at fully participating pediatric sites.

Q: I am at a pediatric NSQIP-participating site and would like to work on a research project with others from a different site that is not participating. Will I be allowed to do that?
A: Yes, however, the NSQIP affiliated researcher must be the lead investigator on all PUF-based research projects and is responsible for the PUF dataset, even if forwarded to someone else. The non-participating collaborator must also sign the DUA.

Q: How do I obtain a copy of this file?
A: Please see the "Data Request Process" on page 1 of this document for a step-by-step approach on how to do so.

***Contents of the Files***

Q: Are other Pediatric PUF data sets available?

A: There are currently 53 Pediatric PUFs available for request / download:

| PUF Year | PUF Type | Cases | Sites |
|---|---|---|---|
| 2012 | Pediatrics | 51,008 | 50 |
| 2013 | Pediatrics | 63,387 | 56 |
| 2014 | Pediatrics | 68,838 | 64 |
| 2015 | Pediatrics | 84,056 | 80 |
| 2016 | Pediatrics | 101,887 | 101 |
| 2017 | Pediatrics | 113,922 | 109 |
| 2018 | Pediatrics | 119,486 | 127 |
| 2019 | Pediatrics | 132,881 | 141 |
| 2020 | Pediatrics | 128,395 | 148 |
| 2021 | Pediatrics | 141,843 | 150 |
| 2022 | Pediatrics | 146,331 | 157 |
| 2023 | Pediatrics | 151,466 | 157 |
| 2024 | Pediatrics | 150,533 | 155 |
| 2025 | Pediatrics | 149,389 | 154 |
| 2015 | Appendectomy | 10,570 | 20 |
| 2016 | Appendectomy | 13,114 | 101 |
| 2017 | Appendectomy | 14,463 | 106 |
| 2018 | Appendectomy | 16,986 | 122 |
| 2019 | Appendectomy | 20,658 | 134 |
| 2020 | Appendectomy | 21,445 | 140 |
| 2021 | Appendectomy | 22,212 | 140 |
| 2022 | Appendectomy | 22,681 | 148 |
| 2023 | Appendectomy | 23,340 | 147 |
| 2024 | Appendectomy | 24,170 | 147 |
| 2025 | Appendectomy | 25,141 | 145 |
| 2016 | Spinal Fusion | 3,728 | 93 |
| 2017 | Spinal Fusion | 4,260 | 98 |

| PUF Year | PUF Type | Cases | Sites |
|---|---|---|---|
| 2018 | Spinal Fusion | 5,333 | 112 |
| 2019 | Spinal Fusion | 6,153 | 124 |
| 2020 | Spinal Fusion | 6,019 | 131 |
| 2021 | Spinal Fusion | 7,125 | 139 |
| 2022 | Spinal Fusion | 7,045 | 145 |
| 2023 | Spinal Fusion | 7,397 | 143 |
| 2024 | Spinal Fusion | 7,415 | 142 |
| 2025 | Spinal Fusion | 7,485 | 138 |
| 2020 | Vesicoureteral Reflux (VUR) | 1,742 | 124 |
| 2021 | Vesicoureteral Reflux (VUR) | 1,807 | 126 |
| 2022 | Vesicoureteral Reflux (VUR) | 2,305 | 136 |
| 2023 | Vesicoureteral Reflux (VUR) | 2,439 | 137 |
| 2024 | Vesicoureteral Reflux (VUR) | 2,237 | 134 |
| 2025 | Vesicoureteral Reflux (VUR) | 2,202 | 136 |
| 2021 | SAP | 89,342 | 150 |
| 2022 | SAP | 93,007 | 157 |
| 2023 | SAP | 97,787 | 157 |
| 2024 | SAP | 95,589 | 155 |
| 2025 | SAP | 94,208 | 154 |
| 2025 | Gastrostomy Tube | 8,360 | 149 |
| 2016 | CSF Shunt | 1,452 | 96 |
| 2017 | CSF Shunt | 1,128 | 102 |
| 2018 | CSF Shunt | 1,493 | 115 |
| 2019 | CSF Shunt | 2,298 | 131 |
| 2020 | CSF Shunt | 2,096 | 131 |
| 2021 | CSF Shunt | 2,411 | 135 |

Q: What is in this file?

A: The file contains Health Insurance Portability and Accountability Act (HIPAA) de-identified data from sites participating in the ACS NSQIP Pediatric that received odds ratios in 2025. The variable name, variable label, data definition, and other pertinent information are provided in Section 10: Data Variables and Definitions.

Q: Where can I find the Procedure Targeted variables and definitions?

A: You can contact your site's SCR for the Procedure Targeted Variables and Definitions.

Q: Are site identifiers included in the database?
A: At this time, we do not provide any geographic or site-specific identification. We took this approach to ensure the privacy of both the participating sites and surgeons.

Q: Are there surgeon-specific identifiers included in the database?
A: At this time, we do not provide any surgeon-specific information. We took this approach to ensure the privacy of both the participating sites and surgeons.

Q: Why does the Pediatric PUF exclude specific dates?
A: In order to release the Pediatric PUF, certain adjustments to the data are required to ensure proper protection of patient information. To meet these requirements, we remove all elements of dates (except admission year) for dates directly related to an individual. For more information on the 18 data elements that are required for removal, please visit: https://privacyruleandresearch.nih.gov/ or https://privacyruleandresearch.nih.gov/pdf/HIPAA_Booklet_4-14-2003.pdf

Q: The ACS NSQIP Pediatric program collects approximately 150 variables, but the database contains approximately 300 variables. What are the additional variables?
A: The additional variables contained in the Pediatric PUF relate to computed durations. For example, the admission and discharge dates are used to calculate hospital length of stay. In addition, each complication in the ACS NSQIP Pediatric requires the use of three different variables in the database. There are a few other data elements collected in the ACS NSQIP Pediatric that require multiple variables in the database.

***Values in the Data***

Q: Why do some cases have complications that do not have a known duration from operation to complication?
A: In each of these cases, the date of the complication was invalid, which inhibited the calculation of duration. The number of days from operation to complication variable is coded as -99 for these cases.

Q: Why do some of the preoperative lab values have duration from lab to operation, but a value of -99 for the lab value?

A: The results of the lab tests can be entered manually and thus are susceptible to data entry error. Depending on the preoperative lab variable roughly 1% of the cases had invalid values and these invalid values were set to -99 to simplify analysis. It is also possible that some cases have valid lab values but are missing duration from lab to operation variable. This discrepancy is also related to a data entry error and the program continues to improve the data collection software to minimize the potential for data entry errors.

Q: When performing analysis on the five-digit CPT codes in the Other and Concurrent variables, how should I interpret those cases with a valid five-digit CPT code but a CPT description set to NULL?

A: If the case has a valid five-digit CPT code that procedure occurred and should be evaluated as such. The CPT description is a secondary variable and provided for convenience. In the processing of large amounts of data some descriptions are purposefully or inadvertently removed.

***File Formats***

Q: In what file formats are the data available?

A: The data files are made available in a tab delimited TXT, SAS, and SPSS formats.

**Advisement: When a change in defintions across PUF years Is noted, users should attend to this if they merge files. It is suggested that they evaluate variable categories across years and combine them in a manner appropriate to their research objectives**

| Position # | Variable Name | Data Type | Variable Label | Search Term in Chapter 4<br>Notes: Please search exactly as stated<br>* Variables not included in Chapter 4 | Variable Options | Comments |
|---|---|---|---|---|---|---|
| 1 | PUFYEAR | Num | Year of PUF | * Year of PUF | | |
| 2 | CaseID | Num | Case Identification Number | Variable Name:Identification Number MRN/IDN | | Chapter 4 Variable Required to Merge Data |
| 3 | PED_APP_APPENDECTOMY | Char | APP: Acute Appendectomy | Variable Name: Appendectomy for Acute Abdominal Pain/Appendicitis | Acute abdominal pain/acute or perforated appendicits<br>Interval appendectomy<br>Other | |
| 4 | PED_APP_PRSNTN_MINS | Num | APP: Time of Presentation to Operation (min) | * Time from Presentation to Surgery Start (minutes) | | -99 = No Response |
| 5 | PED_APP_PRE_CTOTHER | Char | APP: Preoperative CT Scan at Another Institution | Variable Name: Preoperative CT Scan at Another Institution | Yes; No | NULL = No Response |
| 6 | PED_APP_PRE_CT | Char | APP: Preoperative CT Scan at Surgical Institution | Variable Name: Preoperative CT Scan at Your Institution | Yes; No | NULL = No Response |
| 7 | PED_APP_PRE_ULTRAOTHER | Char | APP: Preoperative Ultrasound at Another Institution | Variable Name: Preoperative Ultrasound at Another Institution | Yes; No | NULL = No Response |
| 8 | PED_APP_PRE_ULTRA | Char | APP: Preoperative Ultrasound at Surgical Institution | Variable Name: Preoperative Ultrasound at Your Institution | Yes; No | NULL = No Response |
| 9 | PED_APP_PRE_MRIOTHER | Char | APP: Preoperative MRI at Another Institution | Variable Name: Preoperative MRI at Another Institution | Yes; No | NULL = No Response |
| 10 | PED_APP_PRE_MRI | Char | APP: Preoperative MRI at Surgical Institution | Variable Name: Preoperative MRI at Your Institution | Yes; No | NULL = No Response |
| 11 | PED_APP_OPFINDING | Char | APP: Operative Finding of Complicated Appendicitis | Variable Name: Definitive Operative Finding of Complicated Appendicitis | Yes; No | NULL = No Response |
| 12 | PED_APP_FINDINGS | Char | APP: Operative Findings | Variable Name: Operative Findings | Visible hole in appendix<br>Fecalith in peritoneal cavity outside appendix<br>Abscess<br>Diffuse fibrinopurulent exudate in peritoneal cavity | NULL = No Response<br>Multi-select variable |
| 13 | PED_APP_PATHDIAG | Char | APP: Pathologic Diagnosis of Appendix | Variable Name: Pathologic Diagnosis of Appendix | Normal appendix<br>Appendicitis<br>Other appendiceal pathology<br>Not available | NULL = No Response |
| 14 | PED_APP_PERCDRAIN | Char | APP: Percutaneous Drainage or Aspiration | Variable Name: Postoperative Percutaneous Drainage or Aspiration of Intraperitoneal Fluid Collection | Yes; No | NULL = No Response |
| 15 | PED_APP_PICC | Char | APP: Catheter Placement | Variable Name: PICC-Central Venous Catheter for Appendicitis | Yes; No | NULL = No Response |
| 16 | PED_APP_PAR_NUTRITION | Char | APP: Parenteral Nutrition Use | Variable Name: Parenteral Nutrition Use After Diagnosis of Appendicitis | Yes; No | NULL = No Response |
| 17 | PED_APP_TEMP_POSTOP | Char | APP: Postoperative Temperature | Variable Name: Temperature ≥38.5 °C by Any Route on Postoperative Day 3 or 4 | Yes; No | NULL = No Response |
| 18 | PED_APP_POST_CTANY | Char | APP: Postoperative CT Scan | Variable Name: Postoperative CT Scan at Any Institution | Yes; No | NULL = No Response |
| 19 | PED_APP_POST_ULTRAANY | Char | APP: Postoperative Ultrasound | Variable Name: Postoperative Ultrasound at Any Institution | Yes; No | NULL = No Response |
| 20 | PED_APP_POST_MRIANY | Char | APP: Postoperative MRI | Variable Name: Postoperative MRI at Any Institution | Yes; No | NULL = No Response |
| 21 | PED_APP_PAR_ANTIBIO_DISCH | Char | APP: Parenteral Antibiotics at Discharge | Variable Name: Parenteral Antibiotics at Time of Hospital Discharge | Yes; No | NULL = No Response |
| 22 | PED_APP_ORAL_ANTIBIO_DISCH | Char | APP: Oral Antibiotics at Discharge | Variable Name: Oral Antibiotics at Time of Hospital Discharge | Yes; No | NULL = No Response |
| 23 | PED_APP_POST_ED | Char | APP: Postoperative Emergency Department Visits | Variable Name: Postoperative Emergency Department (ED) Visits | Yes; No | NULL = No Response |

**Advisement: When a change in defintions across PUF years Is noted, users should attend to this if they merge files. It is suggested that they evaluate variable categories across years and combine them in a manner appropriate to their research objectives**

| Position # | Variable Name | Data Type | Variable Label | Search Term in Chapter 4<br>Notes: Please search exactly as stated<br>* Variables not included in Chapter 4 | Variable Options | Comments |
|---|---|---|---|---|---|---|
| 1 | PUFYEAR | Num | Year of PUF | * Year of PUF | | |
| 2 | CaseID | Num | Case Identification Number | Variable Name:Identification Number MRN/IDN | | Chapter 4 Variable Required to merge data |
| 3 | PED_SPN_CLASS | Char | SPN: Classification of Spinal Deformity | Variable Name:Classification of Spinal Deformity | Idiopathic<br>Congenital/Structural<br>Neuromuscular<br>Syndromic<br>Kyphosis<br>Insufficient clinical information to classify | |
| 4 | PED_SPN_PRIOROP | Char | SPN: Prior Operation for Spinal Deformity | Variable Name:History of Prior Operation for Spinal Deformity | Yes; No | |
| 5 | PED_SPN_PREOPMRI | Char | SPN: Preoperative MRI | Variable Name:Preoperative MRI | Yes; No | |
| 6 | PED_SPN_NEUROMON | Char | SPN: Intraoperative Neuromonitoring | Variable Name:Intraoperative Use of Neuromonitoring | Yes; No | |
| 7 | PED_SPN_ANTIBIO_WND | Char | SPN: Intraoperative Antibiotics | Variable Name:Intraoperative Antibiotics in the Wound or Bone Graft | Yes; No | |
| 8 | PED_SPN_ANTIFIB | Char | SPN: Intraoperative Antifibrinolytics | Variable Name:Intraoperative Use of Antifibrinolytics | Yes; No | |
| 9 | PED_SPN_TRNSVOL_CELL | Num | SPN: Intraoperative Cell-Saver Transfusion (mL) | Variable Name:Intraoperative Transfusion Volume | | -99 = No Response |
| 10 | PED_SPN_TRNSVOL_ALLOGEN | Num | SPN: Intraoperative Allogeneic Transfusion (mL) | Variable Name:Intraoperative Transfusion Volume | | -99 = No Response |
| 11 | PED_SPN_HEMOGLOBIN | Num | SPN: Postoperative Hemoglobin (g/dL) A, (mmol/L) I | Variable Name:Postoperative Hemoglobin | | -99 = No Response<br>Values are provided in American units (A) and International Units (I) |
| 12 | PED_SPN_HEMATOCRIT | Num | SPN: Postoperative Hematocrit (%) A, (decimal) I | Variable Name:Postoperative Hematocrit | | -99 = No Response<br>Values are provided in American units (A) and International Units (I). |
| 13 | PED_SPN_POST_TRNSVOL_CELL | Num | SPN: Postoperative Cell-Saver Transfusion (mL) | Variable Name:Transfusion Volume Postoperatively | | -99 = No Response |
| 14 | PED_SPN_POST_TRNSVOL_ALLOGEN | Num | SPN: Postoperative Allogeneic Transfusion (mL) | Variable Name:Transfusion Volume Postoperatively | | -99 = No Response |
| 15 | PED_SPN_ICUDAYS | Char | SPN: ICU Length of Stay (days) | Variable Name:Intensive Care Unit (ICU) Length of Stay | 0 days - 30 days | |
| 16 | PED_SPN_POST_NEURODEF | Char | SPN: Postoperative Neurological Deficit | Variable Name:Postoperative Neurological Deficit | Yes; No | |
| 17 | PED_SPN_POST_NEURODEFTYPE | Char | SPN: Postoperative Neurological Deficit Type | Variable Name:Postoperative Neurological Deficit | Peripheral nerve, plexus or nerve root injury<br>Spinal cord injury<br>Cauda equina injury | NULL = No Response<br>Multi-select |

**Advisement: When a change in defintions across PUF years Is noted, users should attend to this if they merge files. It is suggested that they evaluate variable categories across years and combine them in a manner appropriate to their research objectives**

| Position # | Variable Name | Data Type | Variable Label | Search Term in Chapter 4<br>Notes: Please search exactly as stated<br>* Variables not included in Chapter 4 | Variable Options | Comments |
|---|---|---|---|---|---|---|
| 1 | PUFYEAR | Num | Year of PUF | * Year of PUF | | |
| 2 | CaseID | Num | Case Identification Number | Variable Name:Identification Number MRN/IDN | | Chapter 4 Variable<br>Required to merge data |
| 3 | PED_VUR_DIAG | Char | VUR: Diagnosis of Vesicoureteral Reflux | Variable Name:Diagnosis of Vesicoureteral Reflux | Yes; No | |
| 4 | PED_VUR_REFLUXSEVERITY | Char | VUR: Vesicoureteral Reflux Disease Severity | Varialbe Name:Vesicoureteral Reflux Disease Severity | VCUG Grade 1 or RNC Grade 1<br>VCUG Grade 2 or 3 or RNC Grade 2<br>VCUG or 4 or 5 or RNC Grade 3<br>Insufficient clinical information to classify | NULL = No Response |
| 5 | PED_VUR_PRIORPROC | Char | VUR: Prior Vesicoureteral Reflux Procedure | Variable Name:Prior Vesicoureteral Reflux Procedure | Yes – previous reimplant<br>Yes – previous endoscopic sub-ureteric injection<br>Yes – both previous endoscopic sub-ureteric injection and reimplant<br>No | NULL = No Response |
| 6 | PED_VUR_ANY_UROCOMORB | Char | VUR: Urogenital Comorbidities | Variable Name:Urogenital Comorbidities | Yes; No | NULL = No Response |
| 7 | PED_VUR_UROCOMORBIDITIES | Char | VUR: Urogenital Comorbidities | Variable Name:Urogenital Comorbidities | Neurogenic bladder<br>Neurogenic bowel<br>Spina bifida/myelomeningocele<br>Posterior urethral valves<br>Eagle-Barrett (prune belly) syndrome<br>Bladder exstrophy<br>Cloacal exstrophy<br>Imperforate anus<br>Ectopic ureter<br>Ureterocele<br>Duplex kidney<br>Tethered cord<br>None | NULL = No Response<br>Multi-select variable |
| 8 | PED_VUR_PREOPURINECULT | Char | VUR: Preoperative/Intraoperative Urine Culture | Variable Name:Preoperative/Intraoperative Urine Culture | Yes, bacterial growth present, UTI<br>Yes, bacterial growth present, not UTI<br>Yes, no bacterial growth<br>Yes, culture results not available<br>No or unknown | NULL = No Response |
| 9 | PED_VUR_PROCTYPE | Char | VUR: Unilateral vs. Bilateral Procedure | Variable Name:Unilateral vs. Bilateral Procedure | Unilateral<br>Bilateral<br>Unknown | NULL = No Response |
| 10 | PED_VUR_URETERALSTENT | Char | VUR: Ureteral Stent/Catheter | Variable Name:Ureteral Stent/Catheter | Yes, removed in OR<br>Yes, removed outside OR<br>Yes, still in place at 30 days postoperatively<br>No stent placed | NULL = No Response |
| 11 | PED_VUR_ANTIBIOTICSATDCHRG | Char | VUR: Oral Antibiotics at Hospital Discharge | Variable Name:Oral Antibiotics at Hospital Discharge | Yes<br>No or unknown | NULL = No Response |
| 12 | PED_VUR_EMERVISITS | Char | VUR: Postoperative Emergency Department (ED) Visits (0-30 days postoperatively) | Variable Name:Postoperative Emergency Department (ED) Visits (0-30 days postoperatively) | Yes; No | NULL = No Response |
| 13 | PED_VUR_ANY_UNPLPROC | Char | VUR: Unplanned Procedure Related to Anti-reflux Procedure (0-30 days postoperatively) | Variable Name:Unplanned Procedure Related to Anti-reflux Procedure (0-30 days postoperatively) | Yes; No | NULL = No Response |
| 14 | PED_VUR_UNPLANNEDPROC | Char | VUR: Unplanned Procedure Related to Anti-reflux Procedure (0-30 days postoperatively) | Variable Name:Unplanned Procedure Related to Anti-reflux Procedure (0-30 days postoperatively) | Percutaneous nephrostomy tube<br>Ureteral stent placement<br>Intra-peritoneal drain<br>Retroperitoneal drain<br>Incision and drainage of abscess<br>Cystoscopy<br>Insertion of bladder catheter<br>Other urologic procedure<br>No unplanned procedure performed or reported | NULL = No Response<br>Multi-select variable |
| 15 | PED_VUR_CATHPLACEMENT | Char | VUR: Unplanned Urinary Catheter (Intermittent or Indwelling, 0-30 days postoperatively) | Variable Name:Unplanned Urinary Catheter (Intermittent or Indwelling, 0-30 days postoperatively) | Yes<br>No or unknown | NULL = No Response |

**Advisement: When a change in defintions across PUF years Is noted, users should attend to this if they merge files. It is suggested that they evaluate variable categories across years and combine them in a manner appropriate to their research objectives**

| Position # | Variable Name | Data Type | Variable Label | Search Term in Chapter 4<br>Notes: Please search exactly as stated<br>* Variables not included in Chapter 4 | Variable Options | Comments |
|---|---|---|---|---|---|---|
| 1 | PUFYEAR | Num | Year of PUF | * Year of PUF | | |
| 2 | CaseID | Num | Case Identification Number | Variable Name:Identification Number MRN/IDN | | Chapter 4 Variable<br>Required to merge data |
| 3 | PED_GT_GTUBE | Char | GT: First Time Gastrostomy Tube | Variable Name:First Time Gastrostomy Tube | Yes; No | |
| 4 | PED_GT_PREUGS | Char | GT: Preoperative Upper GI Series | Variable Name:Preoperative Upper GI Series | Yes; No | NULL = No Response |
| 5 | PED_GT_EDVISIT | Char | GT: G-tube ED Visit | Variable Name:G-tube ED Visit | Yes; No | NULL = No Response |
| 6 | PED_GT_EDRSN | Char | GT: Reason for ED Visit | *G-tube Reason(s) for ED visit | G-tube dislodgement<br>Cellulitis/Wound Complication<br>Granulation tissue/granuloma/bleeding<br>Leakage<br>Mechanical Device Issue (leaking balloon, clogged, broken g-tube)<br>Other Gastrostomy | |
| 7 | PED_GT_ADDEDVISIT | Char | GT: Additional G-tube ED Visit | *Additional G-tube ED visit | Yes; No | |
| 8 | PED_GT_READRSN | Char | GT: G-tube Reason(s) for Readmission(s) | Variable Name:G-tube Reason(s) for Readmission(s) | N/A<br>G-tube dislodgement<br>Cellulitis/Wound Complication<br>Granulation tissue/granuloma/bleeding<br>Leakage<br>Mechanical Device Issue (leaking balloon, clogged, broken g-tube)<br>Other Gastrostomy | NULL = No Response<br>Multi-select |
| 9 | PED_GT_IR | Char | GT: G-tube IR Intervention | Variable Name:G-tube IR Intervention | Yes; No | NULL = No Response |
| 10 | PED_GT_DISLODGE | Char | GT: Accidental Dislodgement | Variable Name:Accidental Dislodgement | Yes; No | NULL = No Response |
| 11 | PED_GT_DDIS | Num | GT: Days from Operation to Accidental Dislodgement (0-30 Days) | *Days from Operation to Accidental Dislodgement (0-30 Days) | | -99 = No Response |
| 12 | PED_GT_DISLOC | Char | GT: Accidental Dislodgement Location | *Accidental Dislodgement Location | In-Hospital; Not in Hospital | NULL = No Response |
| 13 | PED_GT_POSTSTUDY | Char | GT: Postoperative G-tube Study | Variable Name:Postoperative G-tube Study | Yes; No | NULL = No Response |

# ACS Quality Programs

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