Supplemental Online Content

Writing Group for the CODA Collaborative. Patient factors associated with appendectomy within 30 days of initiating antibiotic treatment for appendicitis. *JAMA Surg*. Published online January 12, 2022. doi:10.1001/jamasurg.2021.6900

This supplemental material has been provided by the authors to give readers additional information about their work.

eTable 1. Demographic, Clinical, Physiological, and Radiologic Variables

Factor	Type	Description
Age	Continuous	Participant self-report, supplemented by the electronic medical record when missing, at the time of enrollment
Sex	Binary	Participant self-report, supplemented by the electronic medical record when missing, at the time of enrollment
Race	Categorical	Participant self-report, supplemented by the electronic medical record when missing, at the time of enrollment
Hispanic ethnicity	Binary	Participant self-report, supplemented by the electronic medical record when missing, at the time of enrollment
Preferred language	Binary	Participant self-report during screening
Concern over bills	Binary	Participant response, at the time of enrollment, to the question: "If you were admitted or readmitted to the hospital for your appendicitis, would you be worried about the bills you would have to pay out of pocket?"
Help with health literacy	Binary	Participant response, at the time of enrollment, to the question: "How often do you need to have someone help you when you read instructions, pamphlets, or other written material from your doctor or pharmacy?" collapsed into always/often or sometimes vs. rarely or never
Below the federal poverty line and/or on Medicaid or another state program	Binary	Combination of participant self-report of income, number of dependents, and insurance status at the time of enrollment
Average pain in the previous 7 days	Continuous	Participant self-report at the time of enrollment. Possible responses ranged from 0 ("No pain") to 10 ("Worst imaginable pain")
Number of days with symptoms	Binary	Abstracted from the participant's chart during their index health care encounter by trained research staff. Data were reported to the nearest half day and then collapsed into less than 1 day vs. 1 or more days
White blood cell count	Continuous	Abstracted from the participant's chart during their index health care encounter by trained research staff. Data were reported as 1000 cells/microL.
History of fever	Binary	Abstracted from the participant's chart during their index health care encounter by trained research staff.
History of nausea, vomiting, and anorexia	Binary	Abstracted from the participant's chart during their index health care encounter by trained research staff. A report of at least one of these resulted in a "Yes", whereas a report of "No" for all 3 resulted in a "No" value.
Body mass index (BMI)	Categorical	Participant weight was obtained during the index health care encounter; data on height were obtained within 1 year of enrollment. Body mass index (BMI) was calculated and categorized into four groups.
Appendicolith	Binary	Reported by attending radiologists from computed tomography (CT), ultrasound, or MRI performed prior to participant enrollment.
Appendiceal diameter	Continuous	Reported by attending radiologists from computed tomography (CT), ultrasound, or MRI performed prior to participant enrollment.
Advanced disease	Binary	Defined as one or more of perforation, abscess, and moderate or severe periappendiceal fat stranding (phlegmon) versus none, mild, or unspecified. While the majority of participants received a CT scan, those who received ultrasound alone were not assessed for fat stranding. Perforation and/or abscess reported as "ambiguous" were considered positive findings.

eAppendix 1. Variables Included in the MICE Algorithm

Variables included in the MICE algorithm, in addition to all the variables in the Base+R+A model (including the appendectomy outcome and site)

Periappendiceal fat, Periappendiceal fluid, Height (cm), Weight (kg), Diabetes, Alvarado score, Charlson score, EQ-5D at index, Lives alone, Primary language (English/other or Spanish), Insurance (Commercial, Medicare/Tricare, Medicaid/state, or Other/none), Employment (Employed, Student, or Unemployed/Other), Education (HS/GED or less, or some beyond HS/GED), Number of adults in the household with income, Number of dependents, Sharing responsibilities of dependents, Physical at work (Most or all of the time, some of the time or less, or not employed), Smoking history (yes or no), Combined household income, Global Health questions 1-9 (each with a five-point scale rating, covering general health, quality of life, physical health, mental health, social activities/relationships, and everyday physical activities), Language for trial (Spanish or English), Health literacy help, Worried about bills, Below poverty or Medicaid/state

eTable 2. Factors Associated With 30-Day Appendectomy in Multivariable Nested Models

	Base	Base+A	Base+R
Age (for increase of 1 year)	1.00 (0.99,1.02)	1.00 (0.98,1.01)	1.00 (0.98,1.01)
Female vs. male sex	1.37 (0.91,2.05)	1.45 (0.96,2.19)	1.50 (1.00,2.27)
Body mass index 25–35 vs. <25 kg/m^2	1.80 (1.13,2.86)	1.71 (1.07,2.75)	1.62 (1.01,2.62)
Body mass index >35 vs. <25 kg/m^2	0.70 (0.39,1.27)	0.72 (0.40,1.30)	0.66 (0.36,1.20)
Duration of symptoms 1 or more days vs. <1 day	0.84 (0.54,1.33)	0.88 (0.55,1.39)	0.77 (0.48,1.22)
Average pain in the previous 7 days (for increase of 1 point)	1.07 (1.00,1.15)	1.07 (0.99,1.15)	1.06 (0.99,1.14)
White blood cell count (for increase of 1000 per microL)	1.06 (1.00,1.11)	1.04 (0.99,1.10)	1.04 (0.99,1.10)
Fever reported vs. none/not reported	1.27 (0.83,1.94)	1.29 (0.83,1.99)	1.26 (0.81,1.95)
Nausea, vomiting, or anorexia reported vs. none/not reported	0.70 (0.43,1.15)	0.71 (0.43,1.18)	0.68 (0.41,1.13)
Appendiceal diameter (for increase of 1mm)	NA	NA	1.13 (1.04,1.22)
Perforation, abscess, or fat stranding reported vs. none/not reported	NA	NA	1.21 (0.71,2.07)
Appendicolith reported vs. none/not reported	NA	2.36 (1.56,3.56)	NA

All odds ratios are pooled estimates from multiply imputed data sets, adjusted for site
Base model: age, sex, body mass index, duration of symptoms, average pain in the last 7 days, white blood cell count, fever, and nausea/vomiting/anorexia
Base+A: Base model, appendicolith
Base+R: Base model, appendiceal diameter, perforation/abscess/fat stranding
NA indicates that the variable was not present in the model

eTable 3. Factors Associated With 30-Day Appendectomy in Sensitivity Analysis Restricted to Appendectomies for Acute Clinical Reasons

	Univariate	Base	Base+A	Base+R	Base+R+A
Age (for increase of 1 year)	1.00 (0.99,1.02)	1.00 (0.98,1.01)	1.00 (0.98,1.01)	0.99 (0.97,1.01)	0.99 (0.97,1.01)
Female vs. male sex	1.04 (0.68,1.58)	1.27 (0.80,2.02)	1.36 (0.84,2.19)	1.44 (0.90,2.32)	1.45 (0.89,2.35)
Body mass index 25–35 vs. <25 kg/m^2	1.76 (1.09,2.85)	1.76 (1.06,2.92)	1.74 (1.04,2.91)	1.60 (0.95,2.68)	1.62 (0.96,2.75)
Body mass index >35 vs. <25 kg/m^2	0.64 (0.32,1.28)	0.61 (0.30,1.25)	0.66 (0.31,1.39)	0.56 (0.27,1.18)	0.61 (0.28,1.32)
Duration of symptoms 1 or more days vs. <1 day	0.72 (0.45,1.17)	0.67 (0.40,1.11)	0.69 (0.41,1.16)	0.60 (0.35,1.01)	0.65 (0.38,1.10)
Average pain in the previous 7 days (for increase of 1 point)	1.06 (0.99,1.15)	1.08 (1.00,1.11)	1.07 (0.99,1.16)	1.06 (0.98,1.15)	1.06 (0.98,1.15)
White blood cell count (for increase of 1000 per microL)	1.04 (0.99,1.10)	1.06 (1.00,1.11)	1.03 (0.98,1.09)	1.04 (0.98,1.10)	1.03 (0.97,1.09)
Fever reported vs. none/not reported	1.51 (0.96,2.37)	1.50 (0.93,2.41)	1.55 (0.95,2.52)	1.53 (0.94,2.47)	1.55 (0.95,2.53)
Nausea, vomiting, or anorexia reported vs. none/not reported	0.78 (0.47,1.31)	0.64 (0.37,1.11)	0.66 (0.37,1.15)	0.64 (0.36,1.12)	0.65 (0.37,1.15)
Appendiceal diameter (for increase of 1mm)	1.15 (1.06,1.25)	NA	NA	1.16 (1.06,1.27)	1.10 (0.99,1.21)
Perforation, abscess, or fat stranding reported vs. none/not reported	1.51 (0.86,2.66)	NA	NA	1.18 (0.63,2.22)	1.10 (0.58,2.08)
Appendicolith reported vs. none/not reported	3.15 (2.06,4.82)	NA	2.91 (1.87,4.53)	NA	2.41 (1.49,3.91)

All odds ratios are pooled estimates from multiply imputed data sets, adjusted for site; APPY30 = appendectomy within 30 days.
Base model: age, sex, body mass index, duration of symptoms, average pain in the last 7 days, white blood cell count, fever, and nausea/vomiting/anorexia
Base+A: Base model, appendicolith
Base+R: Base model, appendiceal diameter, perforation/abscess/fat stranding
Base+R+A: Base model, appendiceal diameter, perforation/abscess/fat stranding, appendicolith

eAppendix 2. The CODA Trial Sites and Site Leads

CODA Trial

Sites and Site Leads: Bellevue Hospital Center New York University School of Medicine**:** Patricia Ayoung-Chee, MD, MPH, William Chiang, MD; Beth Israel Deaconess Medical Center**:** Charles Parsons, MD, Stephen R. Odom, MD, Nathan I. Shapiro, MD, MPH; Boston University Medical Center**:** Sabrina E. Sanchez, MD, MPH, F. Thurston Drake, MD, MPH; Columbia University Medical Center**:** Katherine Fischkoff, MD, Aleksandr Tichter, MD; Harbor-University of California Los Angeles Medical Center: Daniel A. DeUgarte, MD, Amy H. Kaji, MD, PhD; Harborview Medical Center**:** Heather Evans, MD, MS, Joseph Cuschieri, MD, Amber K. Sabbatini, MD, MPH; Henry Ford Health Hospital**:** Jeffrey Johnson, MD, Joe H. Patton, MD; Madigan Army Medical Center**:** Vance Sohn, MD, Karen McGrane, MD; Maine Medical Center**:** Damien W. Carter, MD; The Ohio State University Wexner Medical Center**:** Steven Steinberg, MD, David Evans, MD; Olive View-University of California Los Angeles Medical Center**:** Darin Saltzman MD, PhD, David A. Talan, MD, Gregory J. Moran, MD; Providence Regional Medical Center Everett**:** Careen S. Foster, MD, Brandon Tudor, MD; Rush University Medical Center**:** Thea P. Price, MD; Swedish Medical Center**:** Katherine A. Mandell, MD, MPH; Tisch Hospital New York University Langone Medical Center**:** Patricia Ayoung-Chee, MD, MPH, William Chiang, MD; UCHealth University of Colorado Hospital**:** Lisa Ferrigno, MD, MPH, Matthew Salzberg, MD, MBA; University of Iowa Hospitals and Clinics**:** Dionne A. Skeete, MD, Brett A. Faine, PharmD, MS; University of Michigan Medical Center**:** Pauline K. Park, MD, Hasan B. Alam, MD; University of Mississippi Medical Center: Matthew E. Kutcher, MD, MS, Alan Jones, MD; McGovern Medical School at The University of Texas Health Science Center at Houston (UTHealth)**:** Lillian S. Kao, MD, MS; University of Texas Lyndon B. Johnson General Hospital**:** Mike K. Liang, MD; University of Washington Medical Center**:** Giana H. Davidson, MD, MPH, Amber K. Sabbatini, MD, MPH; Vanderbilt University Medical Center**:** Callie M. Thompson, MD, Wesley H. Self, MD, MPH; Virginia Mason Medical Center**:** Abigail Wiebusch, MD, Juliana T. Yu, MD; Weill Cornell Medical Center**:** Robert J. Winchell, MD, Sunday Clark, ScD, MPH.

*Site abbreviations: BID = Beth Israel Deaconess Medical Center, BMC = Boston University Medical Center, COL = Columbia University Medical Center, HFH = Henry Ford Health System, HMC = Harborview Medical Center-UW Medicine, IOW = University of Iowa Hospitals & Clinics, LBJ = University of Texas Lyndon B. Johnson General Hospital, MAD = Madigan Army Medical Center (affiliated with University of Washington) MIS = University of Mississippi Medical Center, MMC = Maine Medical Center, NYB = Bellevue Hospital Center NYU School of Medicine, NYT = Tisch Hospital NYU Langone Medical Center, OSU = Ohio State University Medical Center, PRE = Providence Regional Medical Center Everett, RUSH = Rush University Medical Center, SWE = Swedish Medical Center, UCD = UCHealth University of Colorado Hospital, Denver, UCH = Harbor UCLA Medical Center, UCO = Olive View-UCLA Medical Center, UCRR = Ronald Reagan UCLA Medical Center, UOM = University of Michigan Medical Center, UTH = McGovern Medical School at The University of Texas Health Science Center at Houston (UTHealth), UOW = University of Washington Medical Center-UW Medicine, VAN = Vanderbilt University Medical Center, VM = Virginia Mason Medical Center, WMC = Weill Cornell Medical Center