

Supplemental Table S1.

The List of the *International Statistical Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM)* of screening all eligible patients aged  $\geq 18$  years presenting to this ED with confirmed cholecystitis

| ICD-10 | ICD-9             | Disease names                                                                    |
|--------|-------------------|----------------------------------------------------------------------------------|
| K81.0  | 575.0             | acute cholecystitis                                                              |
| K81.1  | 575.11            | Chronic cholecystitis                                                            |
| K81.2  | 575.12            | Acute cholecystitis with chronic cholecystitis                                   |
| K81.9  | 575.10            | Cholecystitis, unspecified                                                       |
| K80.40 | 574.30/<br>574.40 | Calculus of bile duct with cholecystitis, unspecified, without obstruction       |
| K80.41 | 574.31/<br>574.41 | Calculus of bile duct with cholecystitis, unspecified, with obstruction          |
| K80.42 | 574.30            | Calculus of bile duct with acute cholecystitis without obstruction               |
| K80.43 | 574.31            | Calculus of bile duct with acute cholecystitis with obstruction                  |
| K80.44 | 574.40            | Calculus of bile duct with chronic cholecystitis without obstruction             |
| K80.45 | 574.41            | Calculus of bile duct with chronic cholecystitis with obstruction                |
| K80.46 | 574.30            | Calculus of bile duct with acute and chronic cholecystitis without obstructio    |
| K80.47 | 574.31            | Calculus of bile duct with acute and chronic cholecystitis with obstructio       |
| K80    |                   | Cholelithiasis                                                                   |
| K80.0  |                   | Calculus of gallbladder with acute cholecystitis                                 |
| K80.00 | 574.00            | ..... without obstruction                                                        |
| K80.01 | 574.01            | ..... with obstruction                                                           |
| K80.1  |                   | Calculus of gallbladder with other cholecystitis                                 |
| K80.10 | 574.10            | Calculus of gallbladder with chronic cholecystitis without obstruction           |
| K80.11 | 574.11            | Calculus of gallbladder with chronic cholecystitis with obstruction              |
| K80.12 | 574.10            | Calculus of gallbladder with acute and chronic cholecystitis without obstruction |
| K80.13 | 574.11            | Calculus of gallbladder with acute and chronic cholecystitis with obstruction    |
| K80.18 | 574.10            | ..... without obstruction                                                        |
| K80.19 | 574.11            | ..... with obstruction                                                           |
| K80.2  |                   | Calculus of gallbladder without cholecystitis                                    |

|        |        |                                                                                                |
|--------|--------|------------------------------------------------------------------------------------------------|
| K80.20 | 574.20 | ..... without obstruction                                                                      |
| K80.21 | 574.21 | ..... with obstruction                                                                         |
| K80.6  |        | Calculus of gallbladder and bile duct with cholecystitis                                       |
| K80.60 | 574.70 | ..... unspecified, without obstruction                                                         |
| K80.61 | 574.71 | ..... unspecified, with obstruction                                                            |
| K80.62 | 574.60 | Calculus of gallbladder and bile duct with acute cholecystitis without obstruction             |
| K80.63 | 574.61 | Calculus of gallbladder and bile duct with acute cholecystitis with obstruction                |
| K80.64 | 574.70 | Calculus of gallbladder and bile duct with chronic cholecystitis without obstruction           |
| K80.65 | 574.71 | Calculus of gallbladder and bile duct with chronic cholecystitis with obstruction              |
| K80.66 | 574.80 | Calculus of gallbladder and bile duct with acute and chronic cholecystitis without obstruction |
| K80.67 | 574.81 | Calculus of gallbladder and bile duct with acute and chronic cholecystitis with obstruction    |
| K80.80 | 574.20 | Other cholelithiasis without obstruction                                                       |
| K80.81 | 574.41 | Other cholelithiasis with obstruction                                                          |
| K82.0  | 575.2  | Obstruction of gallbladder                                                                     |
| K82.8  | 575.8  | Other specified diseases of gallbladder                                                        |
| K82.9  | 575.9  | Disease of gallbladder, unspecified                                                            |
| K82.A1 |        | Gangrene of gallbladder in cholecystitis                                                       |
| K82.A2 |        | Perforation of gallbladder in cholecystitis                                                    |

Supplemental Table S2. Normality tests of the Kolmogorov-Smirnova and the Shapiro-Wilk's statistics.

|                            | Kolmogorov-Smirnova |                | Shapiro-Wilk |                |
|----------------------------|---------------------|----------------|--------------|----------------|
|                            | statistics          | <i>p</i> value | statistics   | <i>p</i> value |
| Age                        | 0.047               | 0.042*         | 0.99         | 0.013*         |
| Body mass index            | 0.056               | 0.006*         | 0.974        | <0.001*        |
| Gallbladder length         | 0.047               | 0.040*         | 0.989        | 0.006*         |
| Gallbladder volume         | 0.079               | <0.001*        | 0.933        | <0.001*        |
| Gallbladder size           | 0.053               | 0.010*         | 0.966        | <0.001*        |
| Gallbladder width          | 0.037               | 0.200          | 0.996        | 0.399          |
| Gallbladder wall thickness | 0.158               | <0.001*        | 0.833        | <0.001*        |
| Onset of symptoms to ED    | 0.448               | <0.001*        | 0.075        | <0.001*        |

Abbreviations: ED, emergency department