Radiologic Management of Infected Fluid Collections

**Variant 1:** Patient with right lower quadrant abdominal pain, fever, and leukocytosis for 7 days. Physical examination shows no peritoneal signs. CT scan shows a thin-walled fluid collection, greater than 3 cm, adjacent to the cecum, nonvisualization of the appendix, and an appendicolith. Imaging findings are highly suspicious for appendicitis. Treatment includes antibiotics.

<table>
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<th>Procedure</th>
<th>Appropriateness Category</th>
<th>SOE</th>
<th>Adults RRL</th>
<th>Peds RRL</th>
<th>Rating</th>
<th>Median</th>
<th>Final Tabulations</th>
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<tbody>
<tr>
<td>Conservative management only</td>
<td>Usually not appropriate</td>
<td>Limited</td>
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References

- 2 (24293807) Study Quality: 4
- 27 (16322960) Study Quality: 2
- 28 (16498095) Study Quality: 3
- 29 (21299091) Study Quality: 2
- 30 (6709901) Study Quality: 4
- 31 (29180172) Study Quality: 4

References

- 2 (24293807) Study Quality: 4
- 27 (16322960) Study Quality: 2
- 28 (16498095) Study Quality: 3
| Percutaneous catheter drainage followed by delayed surgery | Usually appropriate | Strong | N/A | N/A | 7 | 7 | 0 | 0 | 0 | 0 | 1 | 3 | 3 | 3 | 3 |
|----------------------------------------------------------|---------------------|--------|-----|-----|---|---|---|---|---|---|---|---|---|---|
| References                                              | Study Quality       |        |     |     |   |   |   |   |   |   |   |   |   |   |   |
| 16 (16175691)                                            | 3                   |
| 17 (20149402)                                            | Inadequate          |
| 18 (27756361)                                            | 3                   |
| 19 (29431586)                                            | 4                   |
| 20 (17390174)                                            | 4                   |
| 21 (29361105)                                            | 4                   |
| 22 (22052039)                                            | 2                   |
| 23 (11867780)                                            | 4                   |
| 24 (17032194)                                            | 2                   |
| 25 (21286921)                                            | 4                   |
| 26 (22249438)                                            | 2                   |

| Percutaneous catheter drainage only                      | Usually appropriate | Strong | N/A | N/A | 8 | 8 | 0 | 0 | 1 | 0 | 1 | 3 | 1 | 6 | 1 |
|----------------------------------------------------------|---------------------|--------|-----|-----|---|---|---|---|---|---|---|---|---|---|
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| 8 (22821308)                                             | 2                   |
| 9 (28151844)                                             | 3                   |
| 10 (16091990)                                            | 3                   |
| 11 (12093344)                                            | 2                   |
| 12 (10826415)                                            | 3                   |
| 13 (8320186)                                             | 3                   |
| 14 (12525909)                                            | 3                   |
| 15 (23575402)                                            | 2                   |

**Variant 2:** Patient with a history of left hemicolectomy 2 months ago for colon carcinoma. Two weeks after placement of a drain into an abdominal abscess; the patient presents with abdominal pain and fever. Drain output is 25 cc per day and the collection is unchanged in size by CT. Treatment includes antibiotics.
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Variant 3:  Patient who is an intravenous drug abuser presents with fever and tachycardia and on imaging is found to have 2 noncommunicating splenic abscesses accessible percutaneously through a 1 cm rim of normal splenic tissue. Treatment includes antibiotics.

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### Variant 4:

Patient with abdominal pain radiating to the back 5 weeks after hospitalization for acute pancreatitis. Afebrile. CT scan shows a walled-off collection in the body of the pancreas indenting a broad portion of the body of the stomach, affecting the gastric outlet. The collection is percutaneously accessible with a 3-cm window. MR cholangiopancreatography shows a patent pancreatic duct.

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<th>Adults RRL</th>
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</table>

**Variant 5:** Patient with a 2 week history of cough, fever, and foul-smelling sputum. Worsening condition despite a full course of broad-spectrum antibiotics. Sputum cultures negative. CT scan shows a right lower lobe abscess. Treatment includes antibiotics.

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Appropriate Category</th>
<th>SOE</th>
<th>Adults RRL</th>
<th>Peds RRL</th>
<th>Rating</th>
<th>Median</th>
<th>Final Tabulations</th>
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<tbody>
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### Needle aspiration

| Expert Consensus | N/A | N/A | 3 | 3 | 0 | 0 | 7 | 2 | 3 | 1 | 0 | 0 | 0 |

### Percutaneous catheter drainage only

| Limited | N/A | N/A | 6 | 6 | 0 | 1 | 0 | 0 | 1 | 5 | 2 | 3 | 1 |

### Surgery

| Limited | N/A | N/A | 6 | 6 | 0 | 0 | 0 | 1 | 5 | 2 | 5 | 0 | 0 |

### References

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### Variant 6:

Patient with a 3 week history of pneumonia, fever, dyspnea. Worsening condition despite a full course of broad-spectrum antibiotics. CT scan shows a loculated pleural collection with overlying pleural thickening (empyema). Treatment includes antibiotics.

#### Procedure

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<th>SOE</th>
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<th>Peds RRL</th>
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| N/A | N/A | 6 | 6 | 0 | 0 | 0 | 1 | 5 | 2 | 5 | 0 | 0 |

| N/A | N/A | 4 | 4 | 4 | 4 | 4 | 3 | 3 | 0 | 0 | 7 | 2 | 3 | 1 | 0 | 0 | 0 |

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| N/A | N/A | 6 | 6 | 0 | 0 | 0 | 1 | 5 | 2 | 5 | 0 | 0 |
### Variant 7: Woman of childbearing age with abdominal pain, fever, and leukocytosis. Marked tenderness on pelvic examination. CT scan shows a walled-off, probable tubo-ovarian abscess (TOA) greater than 3 cm. Treatment includes antibiotics.

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### Variant 8:

Patient with recent endoscopic retrograde cholangiopancreatography and sphincterotomy now with 3 weeks of worsening right upper quadrant pain, fever, jaundice, and malaise. CT scan reveals 2 liver abscesses greater than 3 cm. MRCP demonstrates no biliary obstruction or stones. Treatment includes antibiotics.

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<th>SOE</th>
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Variant 9: Patient presents to the emergency department with 5 days of progressive ankle swelling and 2 days of fever. An ultrasound was obtained given the diffuse soft-tissue swelling around the ankle which revealed a subperiosteal abscess. Treatment includes antibiotics.
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Appendix Key
A more complete discussion of the items presented below can be found by accessing the supporting documents at the designated hyperlinks.

**Appropriateness Category:** The panel's recommendation for a procedure based on the assessment of the risks and benefits of performing the procedure for the specified clinical scenario.

**SOE:** Strength of Evidence. The assessment of the amount and quality of evidence found in the peer reviewed medical literature for an appropriateness recommendation.

- **References:** The citation number and PMID for the reference(s) associated with the recommendation.
- **Study Quality:** The assessment of the quality of an individual reference based on the number of study quality elements described in the reference.

**RRL:** Relative Radiation Level. A population based assessment of the amount of radiation a typical patient may be exposed to during the specified procedure.

**Rating:** The final rating (1-9 scale) for the procedure as determined by the panel during rating rounds.

**Median:** The median rating (1-9 scale) for the procedure as determined by the panel during rating rounds.

**Final tabulations:** A histogram showing the number of panel members who rated the procedure as noted in the column heading (ie, 1, 2, 3, etc.).

Additional supporting documents about the AC methodology and processes can be found at [www.acr.org/ac](http://www.acr.org/ac).