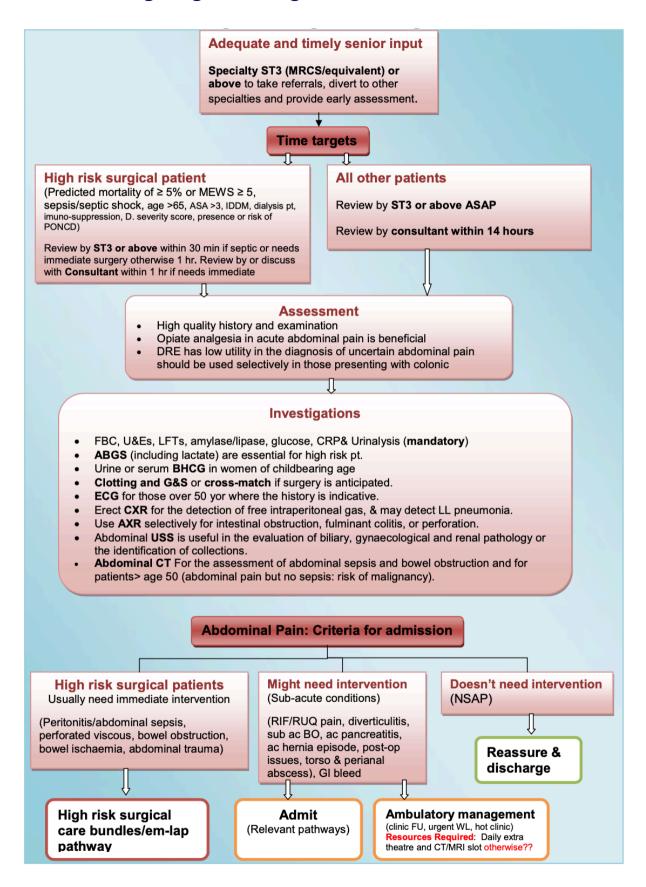


# **General Surgery Induction Booklet**

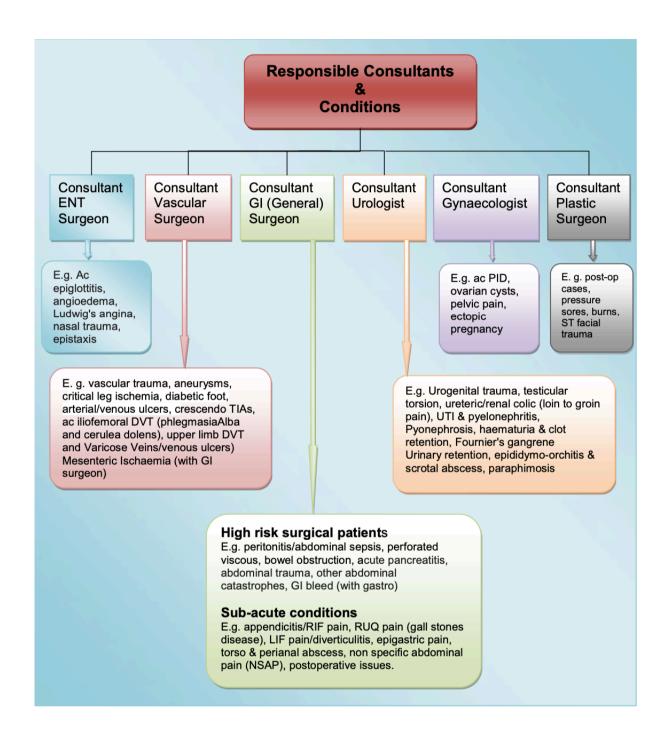
# PATIENT PATHWAYS

- 1. Handling Surgical Emergencies
- 2. Surgical Specialties & SAU Cover
- 3. Surgical Ambulatory Emergency Care (SAEC)
- 4. High-risk Patient Care Bundles
- 5. Sepsis
- 6. Non-specific Abdominal Pain
- 7. Appendicitis/Right Iliac fossa pain
- 8. Diverticulitis/ Left Iliac fossa pain
- 9. Acute Gallstone Disease/Right upper quadrant
- 10. Acute Lower Gastrointestinal Bleeding
- 11. Small Bowel Obstruction
- 12. Large Bowel Obstruction
- 13. Colorectal 2 Week Wait Referral & Triage
- 14. Breast Abscess

#### 1. Handling Surgical Emergencies

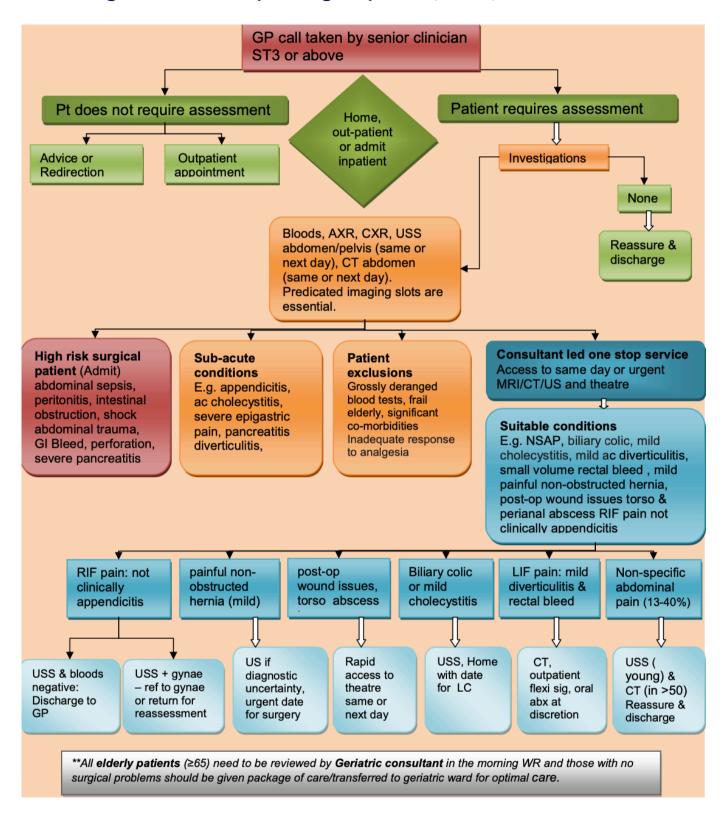


#### 2. Surgical Specialties & SAU Cover



- 1. https://www.rcseng.ac.uk/-/media/files/rcs/news-and-events/media-centre/2018-press-releases-documents/rcs-report-the- highrisk-general-surgical-patient--raising-the-standard--december-2018.pdf
- 2. https://www.rcseng.ac.uk/library-and-publications/rcs-publications/docs/emergency-general-guide/
- 3. https://www.baus.org.uk/professionals/baus\_business/publications/14/emergency\_urology\_2014
- 4. https://www.nice.org.uk/guidance/conditions-and-diseases/urological-conditions
- 5. https://www.vascularsociety.org.uk/patients/conditions/
- 6. https://pathways.nice.org.uk/pathways/acutely-ill-patients-in-hospital
- 7. https://www.rcseng.ac.uk/careers-in-surgery/trainees/foundation-and-core-trainees/surgical-specialties/

#### 3. Surgical Ambulatory Emergency Care (SAEC)

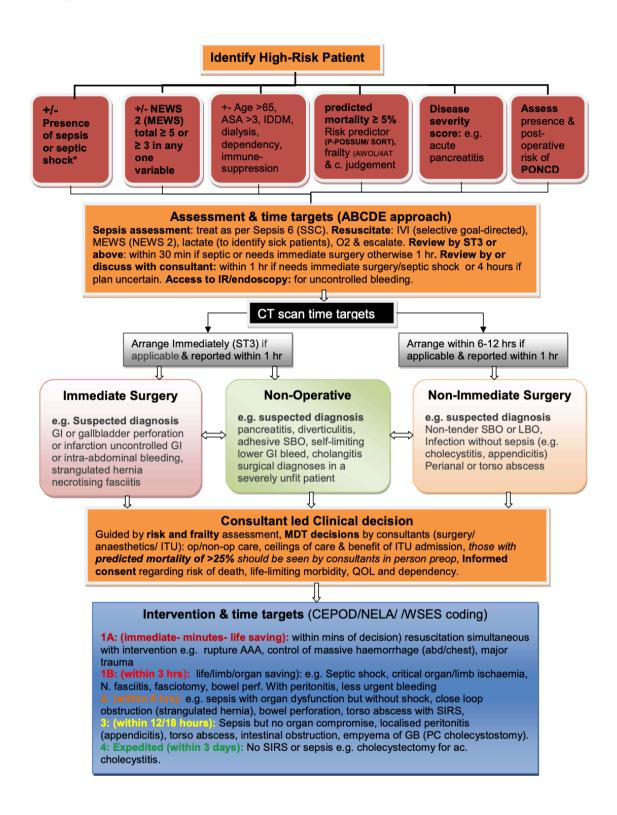


 $<sup>\</sup>label{eq:control_substitution} 5. \qquad \text{https://www.evidence.nhs.uk/search?om=[\%7B\%22srn\%22:[\%22Royal\%20College\%20of\%20Surgeons\%20-\%20RCS\%22]\%7D]&q=ambulatory+emergency+care&sp=on}$ 

<sup>6.</sup> https://gettingitrightfirsttime.co.uk/wp-content/uploads/2019/12/Getting-it-right-in-emergency-care-Aug18.pdf

<sup>7.</sup> https://www.england.nhs.uk/wp-content/uploads/2016/04/Bath-ESAC-Case-Study.pdf

#### 4. High-risk Patient Care Bundles

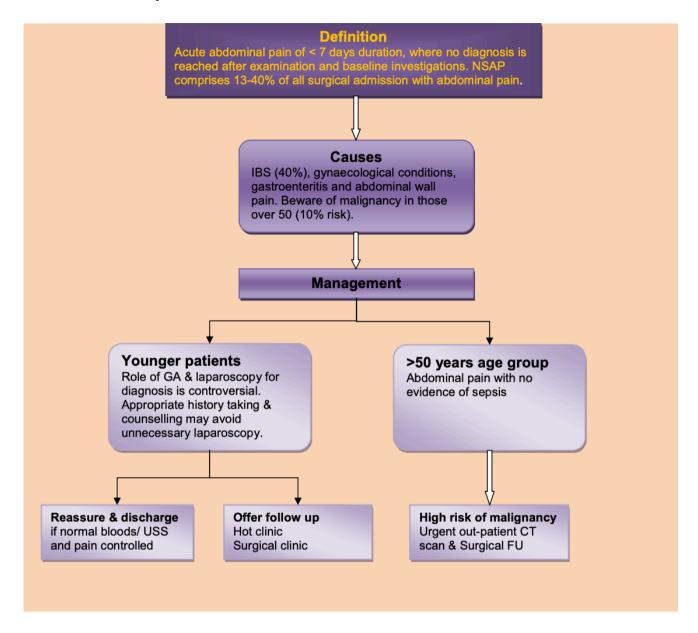


#### 5. Sepsis

#### Think sepsis Any pt that is acutely unwell or his/her condition has acutely deteriorated Essential steps (Medical emergency) Timely recognition, IV Antimicrobial therapy & source control (Immediately escalate the care) Risk factors for sepsis Extremes of age (<1 yr & >75 yrs) or very frail people, recent trauma or surgery or invasive procedure (< 6 wks ago), Impaired immunity (DM, on long-term steroids, chemotherapy or immunosuppressants), indwelling lines, catheters, IVDU, breach of skin integrity (e.g. cuts, burns, blisters or skin infections) & If at risk of neutropenic sepsis (Pts on systemic anti-cancer Strict definition of neutropenia is ANC ≤0.5×10<sup>9</sup>/L) Sepsis Septic shock (A subset of sepsis) Profound circulatory and metabolic abnormalities with Aggregate NEWS 2 score ≥5 or single trigger 3 hypotension resistant to vasopressors treatment and a (e.g. Systolic BP ≤90 mmHg, RR ≥ 22/min, altered raised lactate level (>2 mmol/l) in the absence of mental state) in a patient with Known infection. S/S of hypovolaemia. infection or at high risk of infection Deliver Sepsis 6 (resuscitation) care bundle (within an hr) Administer O2 & maintenance of O2 sat (94-98%) Take peripheral blood cultures before antibiotics (aerobic and anaerobic) IV antibiotics (see trust policy), do not delay beyond 45 minutes if it is not logistically possible to obtain cultures promptly. 4. IV fluids: Immediate fluid challenge (If hypotensive/lactate >2mmol/l) 500 ml stat, total 30 ml/kg crystalloid (within the first 3 hours). Additional fluids may be guided by frequent reassessment of haemodynamic status. Measure blood lactate (re-check after each 10ml/kg fluid challenge) Measure urine output (may require urinary catheter) Source control (surgery/IR) < 3 hours septic shock <6 hours sepsis without shock</p> Call Critical Care & Outreach (sepsis management bundle) If after delivering the Sepsis Six, patient still has: Systolic BP <90 mmHg (septic shock: will need vasopressors), Reduced level of consciousness despite resuscitation, RR > 25/ min, Lactate not reducing (>4 mmol/L), or if patient is clearly critically ill at any time. IVI: (CVP, arterial line) VTE prophylaxis: (UFH or Organ Support Crystalloids +- albumin (if needed LMWH if not C/I) substantial amounts of crystalloids) Mechanical ventilation (for **Vasopressors** sepsis induced ARDS) Sugar control: <10 mmol/L Nor adrenaline, +- Vasopressin Stress ulcer prophylaxis (PPI) +- Dobutamine RRT: for sepsis and AKI Initial target MAP of >65 mm Hg Nutrition: early enteral nutrition

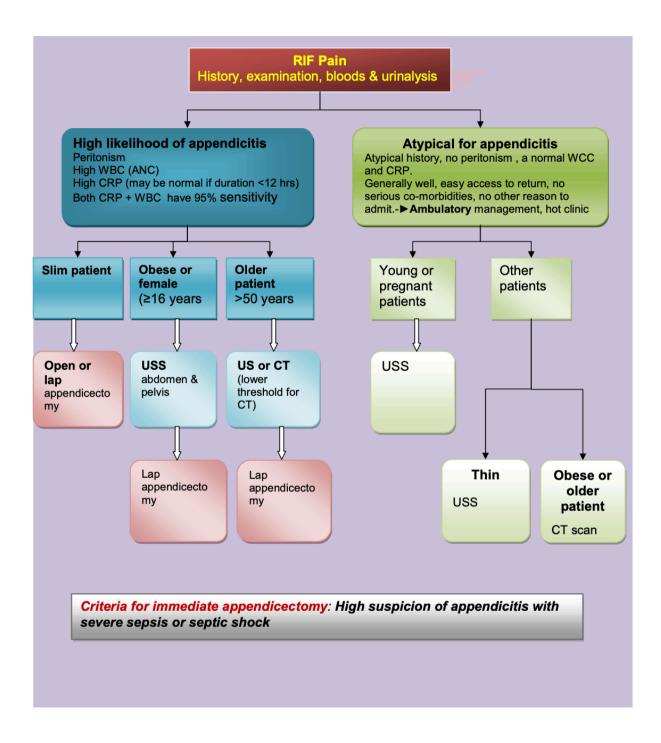
- 1. https://journals.lww.com/ccmjournal/Fulltext/2017/03000/Surviving\_Sepsis\_Campaign\_\_International.15.aspx
- 2. https://www.nice.org.uk/guidance/ng51/resources/algorithm-for-managing-suspected-sepsis-in-adults-and-young
- $3. \hspace{1.5cm} people-aged-18-years-and-over-in-an-acute-hospital-setting-2551485715 \\$
- 4. https://www.nice.org.uk/guidance/ng51/resources/sepsis-recognition-diagnosis-and-early-management-pdf-1837508256709
- 5. https://sepsistrust.org/wp-content/uploads/2018/06/ED-adult-NICE-Final-1107.pdf

#### 6. Non-specific Abdominal Pain



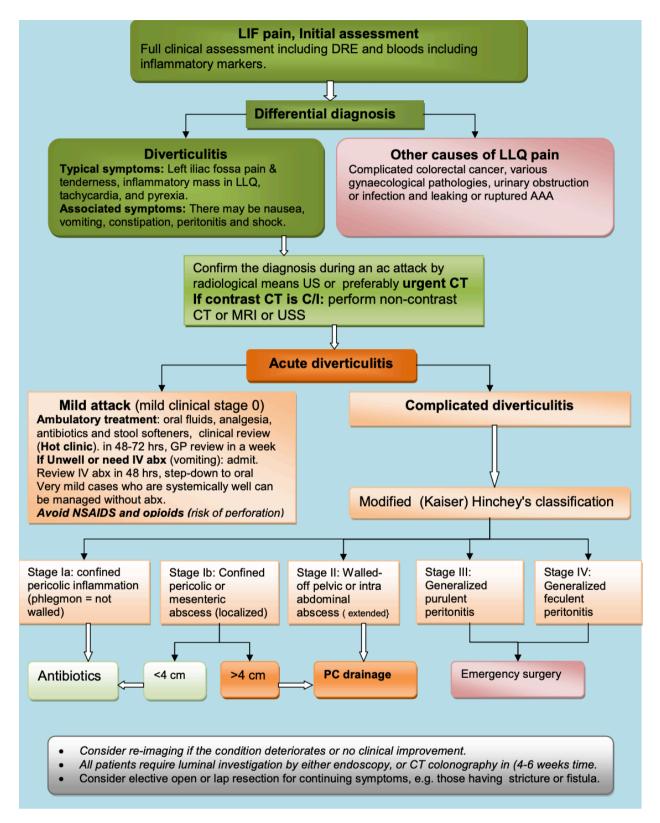
 $https://www.evidence.nhs.uk/search?om=[\%7B\%22srn\%22:[\%22Royal\%20College\%20of\%20Surgeons\%20-\%20RCS\%22]\%7D] \\ \&q=ambulatory+emergency+care\&sp=on$ 

## 7. Appendicitis/Right Iliac fossa pain



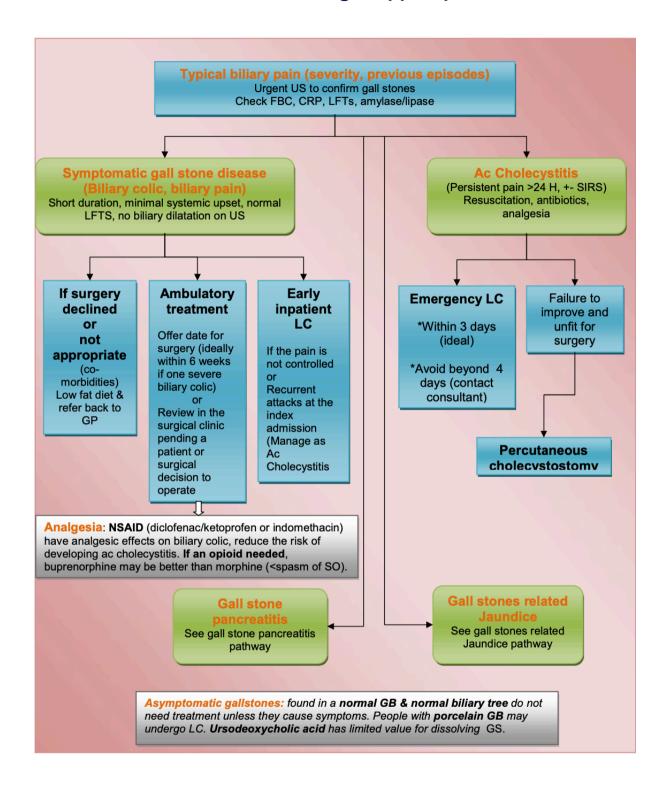
 $https://www.evidence.nhs.uk/search?om=[\%7B\%22srn\%22:[\%22Royal\%20College\%20of\%20Surgeons\%20\%20RCS\%22]\%7D] \\ \&q=ambulatory+emergency+care\&sp=on$ 

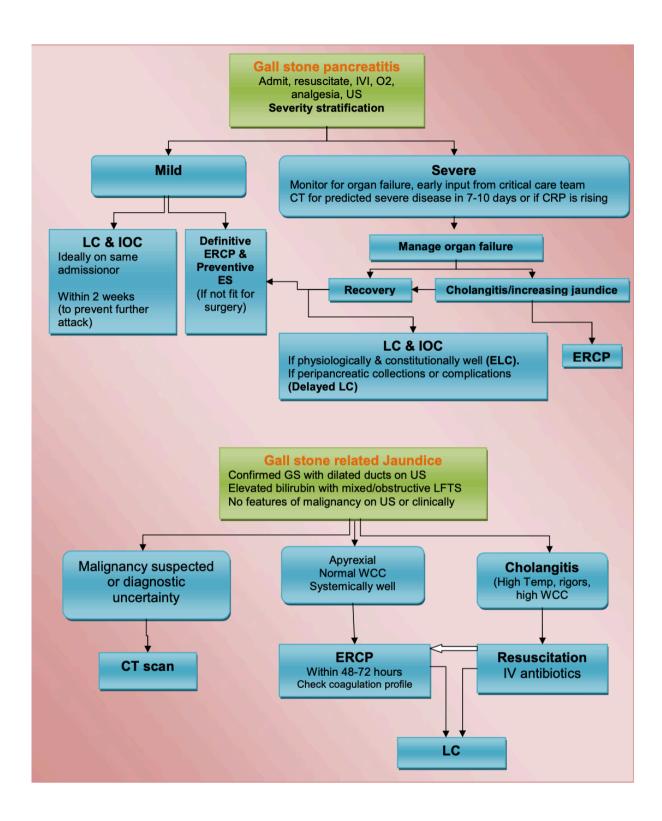
### 8. Diverticulitis/Left Iliac fossa pain



- 1. https://www.nice.org.uk/guidance/ng147/chapter/recommendations#complicated-acutediverticulitis
- 2. https://www.bsg.org.uk/wp-content/uploads/2020/02/NICE-Diverticuar.pdf
- 3. https://wjes.biomedcentral.com/articles/10.1186/s13017-020-00313-4

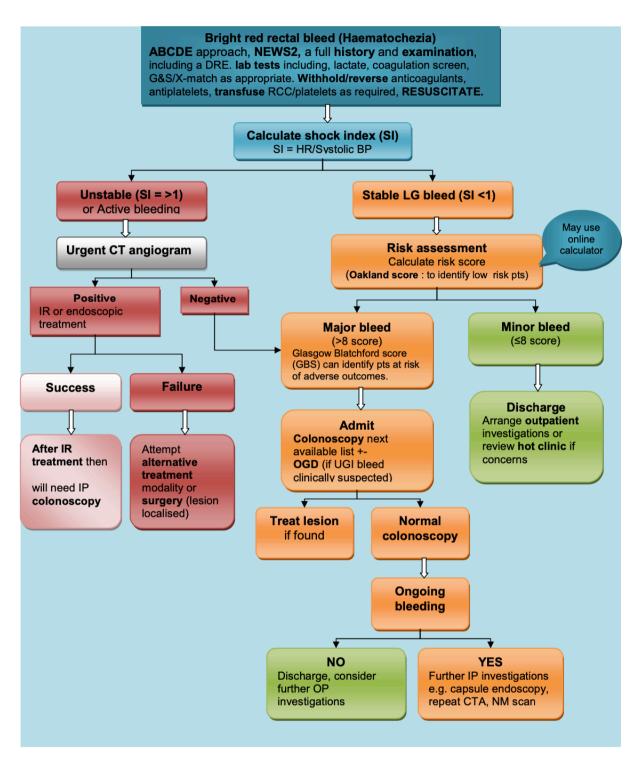
#### 9. Acute Gallstone Disease/Right upper quadrant





- $1. \qquad https://www.augis.org/wp-content/uploads/2014/05/Acute-Gallstones-Pathway-Final-Sept-2015.pdf$
- 2. https://easl.eu/wp-content/uploads/2018/10/Gallstones-English-report.pdf
- 3. https://www.evidence.nhs.uk/search?q=gallstones

#### 10. Acute Lower Gastrointestinal Bleeding



- 1. https://www.mdcalc.com/glasgow-blatchford-bleeding-score-gbs
- 2. https://www.bsg.org.uk/wp-content/uploads/2019/02/gutinl-2018-317807.pdf
- 3. https://www.uptodate.com/contents/approach-to-acute-lower-gastrointestinal-bleeding-in-adults

#### Oakland scoring

| Carialla Scolling  |
|--|
| Predictor  |
| <b>Age</b> : <40 (0), 40-69 (1), ≥70 (2)                                     |
| Sex: M (1), F (0)  |
| Previous LGIB admission:(1)  |
| DRE: blood on finger (1)   |
| <b>HR</b> : 70-89 (1), 90-109 (2), ≥110 (3)                                  |
| <b>SBP</b> : <90 (5), 90-119 (4), 120-129 (3), 130-159 (2), ≥160 (0)         |
| <b>Hb</b> : >160 (0) 130-159 (4) 110-129 (8) 90-109 (13) $70-89$ (17) < (22) |

Hb: ≥160 (0), 130-159 (4), 110-129 (8), 90-109 (13), 70-89 (17), < (22)

Superior ability to identify patients at low risk of adverse outcomes: Patients with score of ≤8 are suitable to discharge and have outpatient investigations. It can also predict rebleeding and the need for RBC transfusion but is inferior at predicting mortality.

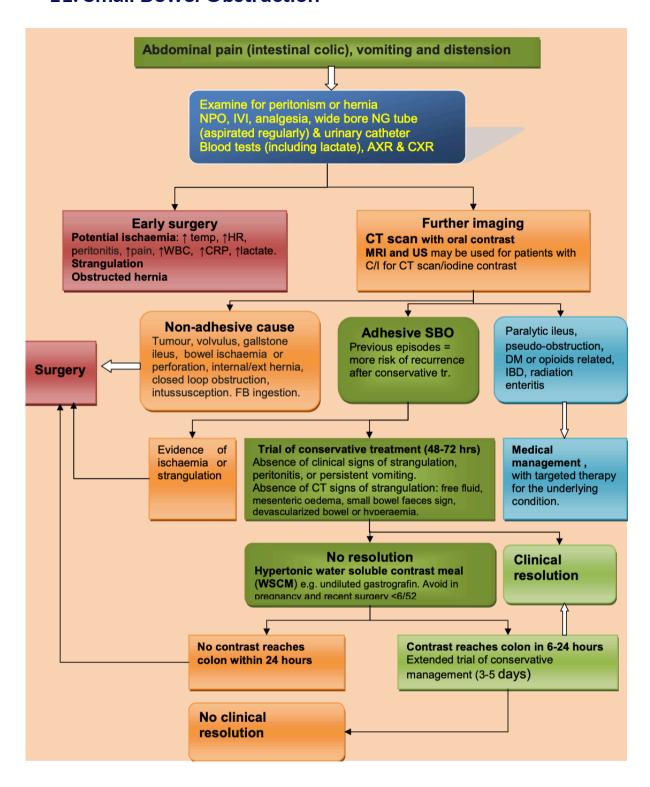
#### Glasgow-Blatchford score (GBS)

| Admission risk marker              | Score component value |  |  |  |
|------------------------------------|-----------------------|--|--|--|
| Blood Urea (mmol/L) <sup>[5]</sup> |                       |  |  |  |
| 6.5–8.0                            | 2                     |  |  |  |
| 8.0–10.0                           | 3                     |  |  |  |
| 10.0–25                            | 4                     |  |  |  |
| >25                                | 6                     |  |  |  |
| Haemoglobin (g/dL) for men         |                       |  |  |  |
| 12.0–12.9                          | 1                     |  |  |  |
| 10.0–11.9                          | 3                     |  |  |  |
| <10.0                              | 6                     |  |  |  |
| Haemoglobin (g/dL) for women       |                       |  |  |  |
| 10.0-11.9                          | 1                     |  |  |  |
| <10.0                              | 6                     |  |  |  |
| Systolic blood pressure (mm Hg)    |                       |  |  |  |
| 100–109                            | 1                     |  |  |  |
| 90–99                              | 2                     |  |  |  |
| <90                                | 3                     |  |  |  |
| Other markers                      |                       |  |  |  |
| Pulse ≥100 (per min)               | 1                     |  |  |  |
| Presentation with melaena          | 1                     |  |  |  |
| Presentation with syncope          | 2                     |  |  |  |
| Hepatic disease                    | 2                     |  |  |  |
| Cardiac failure                    | 2                     |  |  |  |

In the validation group, **scores** ≥6 were associated with a greater than 50% risk of needing an intervention. In a controlled study, 16% of people presenting with UGIB had a GBS **score of "0"**, considered low. Among this group there were no deaths or interventions needed and people were able to be effectively treated in an outpatient setting.

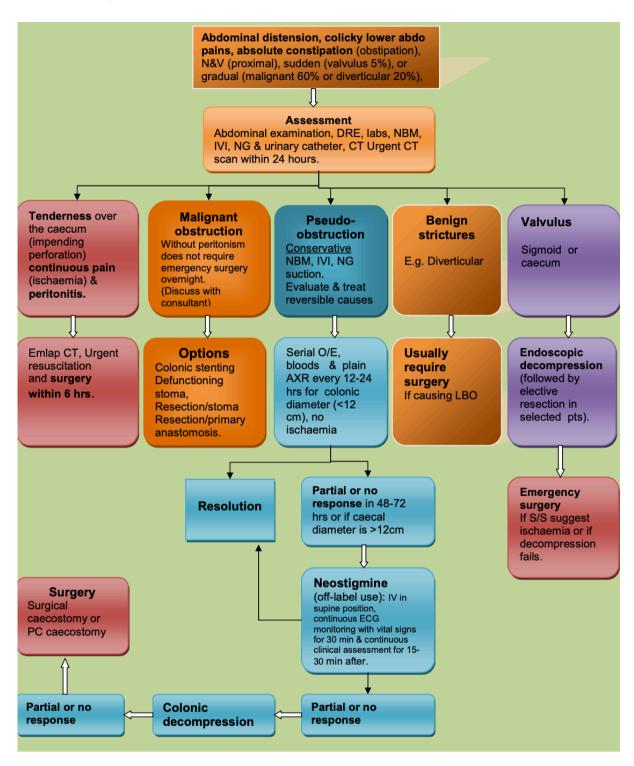
GBS was designed for risk stratification in UGIB, has also been studied in patients with LGIB, and can identify patients at risk of adverse outcomes (rebleeding, need for RBC transfusion, in-hospital death). It may be clinically useful when assessing the risk of adverse outcomes in patients who it is not safe to discharge.

#### 11. Small Bowel Obstruction



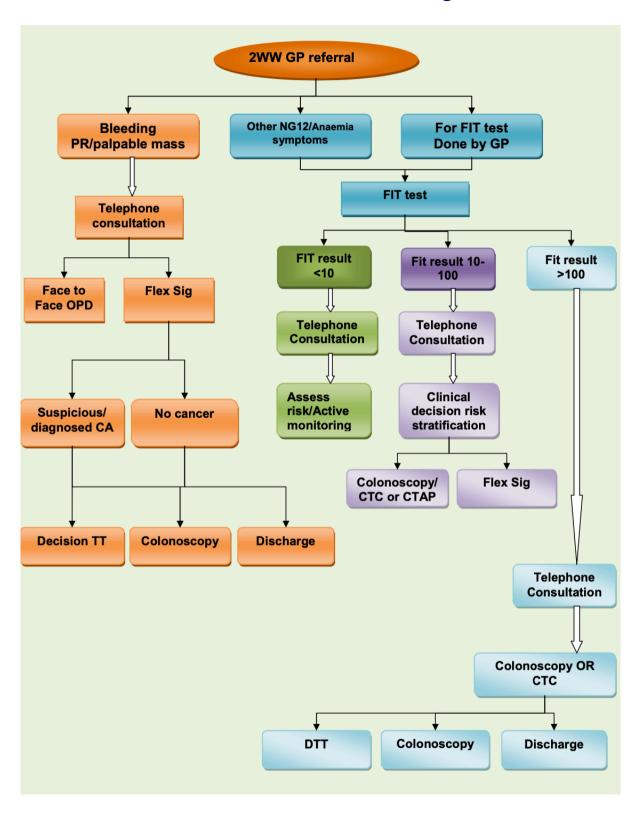
- 1. https://www.wses.org.uk/wp-content/uploads/2015/06/asbo-guidelines.pdf
- 2. https://www.rcseng.ac.uk/library-and-publications/rcs-publications/docs/emergency-general-guide/
- 3. https://www.uptodate.com/contents/management-of-small-bowel-obstruction-in-adults

### 12. Large Bowel Obstruction

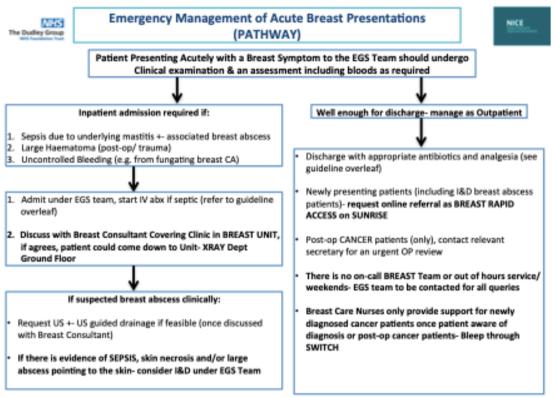


- 1. https://www.uptodate.com/contents/acute-colonic-pseudo-obstruction-ogilvies-syndrome
- 2. https://www.rcseng.ac.uk/library-and-publications/rcs-publications/docs/emergency-general-guide/

# 13. Colorectal 2 Week Wait Referral & Triage



#### 14. Breast Abscess



M.Gulamhussein, V.Voynov (Dept Of Breast Surgery- Dudley Group NHS Foundation Trust)

| Diagnosis   | First Line                                      | Penicillin allergy                            | Note   |
|---|---|---|--|
| Lactational Mastitis<br>+- abscess                                      | Flucloxacillin 2g IV 6<br>hourly                | Clindamycin 600 mg<br>IV 6 hourly             | (7-14) days, consider<br>short course (7 days)<br>if abscess drainage                              |
| Without an implant  | OR  | OR  | performed.   |
| present   | Oral switch<br>Flucloxacillin 1g PO 6<br>hourl  | Oral switch<br>Clindamycin 450 mg<br>6 hourly | If failure within 48<br>hours or patient has<br>adverse effects,<br>consult Micro-oncall           |
| Non-lactational<br>Mastitis +- abscess<br>Without an implant<br>present | Flucloxacillin 2g IV 6<br>hourly<br>OR          | Clindamycin 600 mg<br>IV 6 hourly<br>OR       | (7-14) days, consider<br>short course (7 days)<br>if abscess drainage<br>performed.                |
|   | Oral switch<br>Flucloxacillin 1g PO 6<br>hourly | Oral switch<br>Clindamycin 450 mg<br>6 hourly | Consider adding<br>Metronidazole (if<br>anaerobic infection<br>suspected- Surgeon's<br>discretion) |