PARACENTESIS - CLINICAL GUIDELINE

Summary.

- Request received for Paracentesis - clinician to initiate
- Procedure scheduled - MDU booking to organise
- Clinician available - Junior Doctor
- Procedure undertaken - Junior Doctor
- 6 hour recovery monitored - Nursing/Clinical staff
- Discharge - Nurse led discharge
1. **Aim/Purpose of this Guideline**

1.1. This guideline is to aid safe paracentesis within the gastroenterology department by suitably trained and signed off individuals. Please refer to the Ascites guideline for guidance on the management of ascites.

2. **The Guidance**

2.1. **Consent:**

2.2. Written informed consent should be obtained from all patients on each and every occasion. Complications to be discussed should include:

- Discomfort/ pain
- Bleeding (abdominal wall haematoma or blood vessel laceration)
- Bowel perforation introduction of infection
- Persistent leak from drain site after removal
- Damage to other intra-abdominal organs such as the colon.

2.3. If the patient has liver cirrhosis then human albumin solution should be given to prevent hepatorenal syndrome and this should be discussed prior to procedure. The risk of serious complications should be less than 1 per 1000.

2.4. **Contraindications:**

- Intestinal obstruction
- Significant intra-abdominal adhesions
- Abdominal wall cellulitis at puncture site
- Previous unsuccessful paracentesis

2.5. Abnormal clotting profile due to chronic liver disease is not a contraindication to the procedure- If the patients is on warfarin therapy or has DIC them you should not go ahead without taking advice from a gastroenterologist, hepatologist or haematologist.

2.6. If thrombocytopenia (<50) then platelet transfusion is recommended.

2.7. **What you need:**

- Safe-t-Centesis paracentesis catheter with integral drainage bag and adhesive dressing- a standard Bonano drain is no longer permissible.
- Iodine cleaning solution or similar
- 10 ml syringe
- Sterile sample pot x3
- Lidocaine 1%
- 20 ml syringe
- Catheter stand
2.8. Procedure:

1. Whilst doing gastroenterology, you should only perform this procedure when you have been signed off as competent to do so by a consultant, there are no exception to this, even if you have already been performing the procedure in another department or another hospital.

2. Start by positioning the patient in supine position with absorbent dressings protecting clothing and bedding.

3. After examining the abdomen, make sure that you are satisfied that ascites is present, and that there is an adequate volume to require drainage, if you’re not sure then seek help or arrange an ultrasound scan. Identify an appropriate place to insert the drain, see fig 1, the authors the sites in the lower quadrants rather than the midline. **Stay well away from any abdominal scars or any visible collaterals.**

![Fig 1](image)

4. Wash hands and put on sterile gloves. Observe strict aseptic technique at all times. Clean the skin with iodine solution or similar and position a sterile drape to protect your sterile field. Infiltrate the skin with 1% lidocaine starting with the orange needle to create a bleb then infiltrate deeper with the green needle perpendicular to the skin until ascites is obtained. Use the z technique as described below when infiltrating the local anaesthetic.

5. If it’s not possible to obtain ascitic fluid at this point re-examine the patient and attempt at an alternative spot. If it’s still not possible to obtain fluid the procedure should be abandoned and consideration of abdominal USS marking or discussion with gastro SpR or consultant if available. **DO NOT proceed to drain insertion if no fluid can be obtained with green needle.**

6. Next make a cut in the skin to allow the drain to be easily inserted. Using the z technique insert the drain through the skin as it is pulled taught upwards and then relax the skin to insert the drain through the muscle layer at a slightly different position. This technique reduces the risk of persistent leakage when the drain is removed.

7. When inserting the drain keep continuously withdrawing on the syringe, when ascitic fluid is obtained insert a short distance further then advance
the catheter sheath over the needle. If you are unable to advance the drain for whatever reason they try a suitable alternative site- as long as you can aspirate ascites with a green needle. If the second attempt is unsuccessful then the procedure should be abandoned and an USS arranged for marking.

8. You then need to secure the drain in place using the supplied adhesive dressing.

9. After securing the drain immediately attach to the catheter bag to start draining fluid as soon as possible. We recommend draining as much fluid as possible over a 6 hour period, but if significant drainage is ongoing then it is reasonable to continue for a while longer. It is not necessary to remove all drains in 6 hours, there is no evidence to suggest an increased incidence of infection if drain is in for a few more hours.

10. After drain removal a sterile adhesive dressing should be placed over drain site. If continued leak is observed place a small stoma bag until the leak settles down. Consider whether a further paracentesis is required if patient still has clinical evidence of significant ascites which may be driving the continued leak. Very occasionally a suture is required to manage continued leak.

If patient has ascites secondary to liver disease of any cause we recommend 20% human albumin solution support. 1 unit for every 2.5L ascites drained will reduce the risk of developing hepatorenal syndrome. If the patient has renal impairment prior to the procedure then 1 unit immediately prior to starting is advised.

2.9. Post Procedure:

11. Document procedure accurately in the clinical notes. Make a note of patient consent and indications as well as technical aspects of procedure and any specific aftercare. Please note if procedure was difficult or required more than one pass as this might aid quick recognition of complications if they arise.

2.10. The samples that are required to be sent post procedure depend on the diagnosis and indications. If this is the first presentation of ascites then a sample needs to be sent to biochemistry to establish whether fluid is of low albumin content compared to the serum albumin (serum albumin– ascitic albumin gradient > 11 g/l = portal hypertension). If likely diagnosis is malignancy it may be appropriate to send a sample for cytology (N.B. the larger the amount of fluid that can be sent for cytology the better the pick-up rate of abnormal cells). Whether the patient has an established diagnosis, or an unknown cause of ascites, samples should always be sent for microbiological examination and ascitic WCC count (to haematology).

2.11. It is the responsibility of the person performing the procedure to follow up the cell count results and treat for SBP accordingly, if you are not sure how to interpret the results ask a more senior Dr.
2.12. Observations need to be recorded hourly as well as the amount drained. Observe insertion site for any signs of bleeding or leakage around the drain. Human albumin solution should be given as prescribed during drainage.

2.13. Once drainage has ceased remove drain using aseptic technique. Apply sterile waterproof dressing and lie patient drain side up following procedure for 15 mins to promote sealing of wound.

3. Monitoring compliance and effectiveness

<table>
<thead>
<tr>
<th>Element to be monitored</th>
<th>It is a guideline only for medical staff in secondary care without broad experience in the care of patients with liver disease, compliance will be monitored through outcome of patients needing Paracentesis guidance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead</td>
<td>Dr W Stablefort, Consultant Hepatologist</td>
</tr>
<tr>
<td>Tool</td>
<td>DOPS attached. Appendix 1</td>
</tr>
<tr>
<td>Frequency</td>
<td>Annually</td>
</tr>
<tr>
<td>Reporting arrangements</td>
<td>Gastroenterology Governance Meetings</td>
</tr>
<tr>
<td>Acting on recommendations and Lead(s)</td>
<td>Hepatology team will change the guidance as necessary in keeping with national and international guidelines. Gastroenterology governance meetings</td>
</tr>
<tr>
<td>Change in practice and lessons to be shared</td>
<td>changes necessary will be disseminated through changes in practice in the department.</td>
</tr>
</tbody>
</table>

4. Equality and Diversity

4.1. This document complies with the Royal Cornwall Hospitals NHS Trust service Equality and Diversity statement which can be found in the ‘Equality, Diversity & Human Rights Policy’ or the Equality and Diversity website.

4.2. Equality Impact Assessment
The Initial Equality Impact Assessment Screening Form is at Appendix 2.
Appendix 1. Paracentesis DOPS guidance

This document is to guide sign off competency in paracentesis in the gastroenterology department.

1. Understands the indications, contraindications and alternatives to the procedure
2. Checks bloods prior to procedure and acts accordingly
3. Introduces themselves and positively identifies the patient
4. Takes written informed consent
5. Positions the patient correctly and identifies an appropriate site for drainage
6. Uses aseptic technique
7. Safe positioning of safe-T centesis drain or procedure appropriately abandoned
8. Correct aftercare agreed and procedure documented.

Comments………………………………………………………………………………………
……………………………………………………………………………………………………
……………………………………………………………………………………………………
……………………………………………………………………………………………………
……………………………………………………………………………………………………

Pass/ Fail

Signed………………………………………………………………….Date…………

If you have passed the competency then please scan this document and place in your eportfolio
Appendix 2. Governance Information

<table>
<thead>
<tr>
<th>Document Title</th>
<th>Paracentesis Clinical Guideline</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date Issued/Approved:</td>
<td>4 Jun 15</td>
</tr>
<tr>
<td>Date Valid From:</td>
<td>4 Jun 15</td>
</tr>
<tr>
<td>Date Valid To:</td>
<td>4 Jun 18</td>
</tr>
<tr>
<td>Directorate / Department responsible (author/owner):</td>
<td>Dr W Stableforth, Consultant Hepatologist</td>
</tr>
<tr>
<td>Contact details:</td>
<td>01872 253027</td>
</tr>
<tr>
<td>Brief summary of contents</td>
<td>This guideline is to aid safe paracentesis within the gastroenterology department by suitably trained and signed off individuals.</td>
</tr>
<tr>
<td>Suggested Keywords:</td>
<td>Paracentesis, Gastroenterology, training, competency</td>
</tr>
<tr>
<td>Target Audience</td>
<td>RCHT    PCH  CFT  KCCG</td>
</tr>
<tr>
<td>Executive Director responsible for Policy:</td>
<td>Medical Director</td>
</tr>
<tr>
<td>Date revised:</td>
<td>New Document</td>
</tr>
<tr>
<td>This document replaces (exact title of previous version):</td>
<td>New Document</td>
</tr>
<tr>
<td>Approval route (names of committees)/consultation:</td>
<td>Gastroenterology Governance meeting 28th May 2015. Minuted as ratified.</td>
</tr>
<tr>
<td>Divisional Manager confirming approval processes</td>
<td>Andy Virr</td>
</tr>
<tr>
<td>Name and Post Title of additional signatories</td>
<td>Not Required</td>
</tr>
<tr>
<td>Name and Signature of Divisional/Directorate Governance Lead confirming approval by specialty and divisional management meetings</td>
<td>{Original Copy Signed}</td>
</tr>
<tr>
<td>Name:</td>
<td></td>
</tr>
<tr>
<td>Signature of Executive Director giving approval</td>
<td>{Original Copy Signed}</td>
</tr>
<tr>
<td>Publication Location (refer to Policy on Policies – Approvals and Ratification):</td>
<td>Internet &amp; Intranet ✓ Intranet Only</td>
</tr>
<tr>
<td>Document Library Folder/Sub Folder</td>
<td>Clinical / Gastroenterology</td>
</tr>
</tbody>
</table>
# Appendix 3. Initial Equality Impact Assessment Form

<table>
<thead>
<tr>
<th>Name of the strategy / policy / proposal / service function to be assessed (hereafter referred to as <em>policy</em>) (Provide brief description):</th>
<th>Paracentesis Clinical Guideline</th>
</tr>
</thead>
<tbody>
<tr>
<td>Directorate and service area:</td>
<td>Gastroenterology</td>
</tr>
<tr>
<td>Name of individual completing assessment:</td>
<td>Dr W Stableforth Consultant Hepatology</td>
</tr>
<tr>
<td>Telephone:</td>
<td>01872 253027</td>
</tr>
</tbody>
</table>

## 1. Policy Aim*
Who is the strategy / policy / proposal / service function aimed at?

This guideline is to aid safe paracentesis within the gastroenterology department by suitably trained and signed off individuals.

## 2. Policy Objectives*

This guideline is to aid safe paracentesis within the gastroenterology department by suitably trained and signed off individuals.

## 3. Policy – intended Outcomes*

Safer clinical practice

## 4. *How will you measure the outcome?

See paragraph 4

## 5. Who is intended to benefit from the policy?

Gastroenterology patients

## 6a) Is consultation required with the workforce, equality groups, local interest groups etc. around this policy?

No

## 7. The Impact

Please complete the following table.

<table>
<thead>
<tr>
<th>Equality Strands:</th>
<th>Yes</th>
<th>No</th>
<th>Rationale for Assessment / Existing Evidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sex (male, female, transgender / gender reassignment)</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Race / Ethnic communities / groups</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Paracentesis Clinical Guideline
Disability -
Learning disability, physical disability, sensory impairment and mental health problems ✓

Religion / other beliefs ✓

Marriage and civil partnership ✓

Pregnancy and maternity ✓

Sexual Orientation, Bisexual, Gay, heterosexual, Lesbian ✓

You will need to continue to a full Equality Impact Assessment if the following have been highlighted:
- You have ticked “Yes” in any column above and
- No consultation or evidence of there being consultation - this excludes any policies which have been identified as not requiring consultation. or
- Major service redesign or development

8. Please indicate if a full equality analysis is recommended. Yes No ✓

9. If you are not recommending a Full Impact assessment please explain why.

Signature of policy developer / lead manager / director
Date of completion and submission

Names and signatures of members carrying out the Screening Assessment
1. Dr W Stableforth
2. Roz Davies
Consultant Hepatologist Service Lead

Keep one copy and send a copy to the Human Rights, Equality and Inclusion Lead, c/o Royal Cornwall Hospitals NHS Trust, Human Resources Department, Knowledge Spa, Truro, Cornwall, TR1 3HD

A summary of the results will be published on the Trust’s web site.

Signed _______________
Date _______________