

# PERCUTANEOUS LIVER BIOPSY - CHW

## PROCEDURE<sup>®</sup>

### DOCUMENT SUMMARY/KEY POINTS

- A liver biopsy is performed to assess the nature and severity of liver disease.
- Whilst major complications (such as intra-abdominal bleeding, perforation of abdominal organs, or lung and bile leakage with peritonitis) are unusual, they can be life threatening.
- Therefore, care must be taken in patient preparation and post-procedure management.
- Link to Parent/Carer factsheet  
[https://www.schn.health.nsw.gov.au/files/factsheets/liver\\_biopsy-en.pdf](https://www.schn.health.nsw.gov.au/files/factsheets/liver_biopsy-en.pdf)

### CHANGE SUMMARY

- Due for mandatory review – no changes have been made.

### READ ACKNOWLEDGEMENT

- All clinical staff performing a percutaneous liver biopsy should read and acknowledge this document.

This document reflects what is currently regarded as safe practice. However, as in any clinical situation, there may be factors which cannot be covered by a single set of guidelines. This document does not replace the need for the application of clinical judgement to each individual presentation.

<b>Approved by:</b>	SCHN Policy, Procedure & Guideline Committee	
<b>Date Effective:</b>	1 <sup>st</sup> November 2019	<b>Review Period:</b> 3 years
<b>Team Leader:</b>	CNC Liver Transplantation	<b>Area/Dept:</b> Gastroenterology

## Rationale

A liver biopsy is performed to identify, assess and treat suspected liver disease.

## General Principles

- Ensure that recent coagulation results are available and reviewed prior to biopsy.
- Ensure that blood has been cross-matched (group and hold) and available if required.
- Ensure that patient has IV access
- An ultrasound may be required to mark out the outline of the liver prior to the procedure
- Some patients may have the liver biopsy performed under ultrasound guidance by the Interventional Radiologists. . They are usually infants or patients who have undergone liver transplantation. The procedure will be done under general anaesthetic.

## Equipment required for liver biopsy procedure on the ward

Equipment	
1 x gown	1 x 23g needle
1 x povidone-iodine brush/sponge	1 x 25g needle
Chlorhexidine solution	4 x 10ml Normal Saline
Betadine solution	1 x incontinent sheet
1 x appropriate sized gloves	1 x small sandbag
1 x minor procedure drape	1 x 9 x 10cm combine (for dressing)
1 x scalpel blade with handle	Gauze x 3
1 x gallipot	Elastoplast (white-4 inch)
1 x dressing pack	Red top jar with Formalin/Saline fixative (available from pathology)
1 x plastic drape	Yellow top jar
1 x Jemshidi needle or disposable biopsy gun (available in Clancy Ward if required) or a non-disposable Biopsy gun ( CSSD)	Midazolam and /or Morphine(oral) will be used as pre-med
1 x Lignocaine 1% ampoule	Nitrous oxide equipment and appropriate sized mask
1 x Sodium Bicarbonate ampoule	
1 x 5ml syringe	
1 x 19g needle	

## Procedure

1. Ensure pain team or accredited nurse is available to administer nitrous oxide. (refer to Pain Management Practice Guidelines) Ensure order for nitrous administration is ordered on the Once Only Medication Chart.
2. Ensure patient is Nil by Mouth (NBM) four hours prior to procedure. Patient is fasted to reduce chance of vomiting under nitrous oxide administration.
3. Ensure suction equipment is available and working.
4. Administer oral premedication ( Midazolam/Morphine) as ordered by Medical Officer (MO). Ensure that patient remains on bed rest after administration of pre medication.
5. Prepare equipment for procedure.
6. Commence nitrous oxide prior to procedure. A cannula, if not already in situ, may be inserted at this point. A cannula is necessary so that medication and fluids may be given and emergency access is available.
7. After the procedure a sandbag is placed over the biopsy site to minimise bleeding patients are encouraged to lie on their right side.

## Observations Post-Procedure

1. Patients must be closely observed for the first 7 hours post biopsy.  
Report to medical officer any significant rise in pulse rate or fall in blood pressure, signs of bleeding, vomiting, increase in respirations, abdominal distension or pain, chest or shoulder tip pain.
2. Clinical Observations as follows:
  - 1/4 hourly pulse, respirations, blood pressure (BP) and dressing check for one hour, with hourly temperature.
  - Half hourly pulse, respirations, BP and dressing check for two hours.
  - Hourly observations for four hours.
  - Fourth hourly observations until discharge.
3. Patients must remain on bed rest for 6 hours post biopsy. Toilet privileges are then gradually introduced.
4. Patients may drink fluids when fully awake after review by medical staff. (Review is usually done at two hours and four hours). Strict fluid balance chart must be maintained.
5. Pressure dressing remains intact for 24 hours. If any ooze, reinforce but do not remove. The dressing stays intact to promote healing, and reduce risks of bleeding and infection.
6. Patients should be reviewed regularly by medical staff and appropriate pain relief ordered.

## References

1. Kelly, D. (2008) Diseases of the Liver and Biliary System in Children. 3rd Edition
2. Rockley, D.C., Caldwell, S.H., Goodman, Z., Nelson, R.C., Smith, A.S. (2008) AASLD Position Paper-Liver Biopsy. Hepatology. 49.(3)2009.
3. Sargent, S., Farrington, E. (2011) Percutaneous Liver Biopsy-an overview. Gastrointestinal Nursing 9,(5),35-40.

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