Wound Biopsy

A biopsy aids in the diagnosis of a chronic wound. A skin biopsy is an invasive procedure and requires informed patient consent.

**Biopsy methods** most common in wound care setting:
- Punch biopsy – cylinder with cutting end, 2 – 8 mm diameter (4mm usual)
- Elliptical incisional biopsy – ellipse shaped piece of skin with underlying dermal tissue to depth of fatty layer

**What, where and when to perform a wound biopsy:**

**What:**
- Areas of recent change or different appearance (e.g. hypergranulation)
- Include ‘normal’ periwound skin - 1-2mm
- NOT necrotic debris
- Include dermal fatty tissue (if possible)

**Where:**
- Edge of new areas or extensions of wound

**When:**
- Non healing after 6-8 weeks of appropriate treatment
- Change in wound or periwound skin

**How to perform a punch biopsy:**

**Equipment:**
- Punch biopsy (2–8mm - 4mm most used)
- Basic dressing pack
- Antiseptic solution (Chlorhexidine 0.1% aqueous) and Alcohol swabs
- 2ml syringe and 25G hypodermic needle
- Lignocaine 1% +/- adrenaline 1:100,000
- Scalpel #15 blade
- Pathology specimen transport jar (Histopot)
- Alginate dressing sheet
- Gloves, apron and goggles/face protection

**Procedure:**
- Use ‘aseptic, no touch technique’ with sterile gloves if indicated in at risk patients
- Administer anaesthetic to *selected site*:
  - usually a single bleb of 0.2ml into dermis immediately under chosen biopsy site
  - effective within 1 minute
- Wash hands and don gloves
- Prepare biopsy site (with 5cm margin if wound extensive) using aqueous chlorhexidine solution or normal saline
- Position punch vertically over the site
- Apply gentle downward pressure while rotating the barrel to cut into the tissue to the fatty dermal layer
- Withdraw punch
- Lift out the specimen by piercing with local anaesthetic needle and slice off through fatty layer with scalpel
- Transfer to specimen transporter (eg Histopot) immediately
How to perform an elliptical incisional biopsy:

Equipment:

- Minor suture set – needle holder, scissors, toothed tissue forceps
- Suture material – 3-0 non absorbable (Prolene or nylon) on circular reversed cutting needle
- Basic dressing tray
- Gloves, apron and goggles/face protection
- Scalpel #15 blade
- Local anaesthetic – 1% lignocaine
- 2ml syringe and hypodermic needle 28/23G long
- Aqueous chlorhexidine or Normal saline and alcohol swab
- Alginate dressing sheet 5cmx5cm or Post op water proof island dressing

Procedure:

- Use ‘aseptic no touch technique’ with sterile gloves.
- Administer anaesthetic to selected site:
  - Usually 2 to 4 injections of 0.5 into dermis along sides of ellipse margin of biopsy site – field or ring block technique
  - effective within 1 minute
- wash hands and don sterile gloves
- Prepare biopsy site (with 5cm margin if wound extensive) using aqueous chlorhexidine solution or normal saline
- Hold scalpel vertical to skin surface and incise both sides of ellipse down to dermal fatty layer – single stoke each side
- Use local anaesthetic needle to pierce specimen and lift up from surface
- Use scalpel (or scissors) to slice specimen off through fatty layer and parallel to skin surface
- Transfer to specimen transporter (eg Histopot) immediately
- Apply direct pressure to biopsy site for 3 -5 minutes to control any bleeding
- If wound edges stable close with 1 – 2 simple interrupted stitches

Biopsy after care:

- Leave biopsy site undisturbed for 48 to 72 hours or longer if indicated and there is no strike through on outer dressing
- Sutures removed in 7 - 14 days for lower leg

Adapted from ‘Biopsy in Wound Care’ Dr Dianne Smith, AWMA Conference 2014.