



# STONEY HEALTH SERVICES POLICY AND PROCEDURES

## SKIN SUTURE, CLIP & STAPLE REMOVAL

<b>Effective:</b> Oct. 16,2015	<b>Policy Code:</b> PP + TITLE	<b>Applies To:</b>	<input type="checkbox"/> Leadership & Operations
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<b>Next Revision:</b> Feb. 2,2022	<b>Approval:</b> A. Khan, ED		

**Related Polices & Procedures:** SHS Wound Management Policy

### 1. STANDARD:

- a) Only authorised SHS Registered Nursing personnel can perform removal of simple skin sutures (i.e. cuts that have been sutured in ER/Urgent Care/Dr's Offices) within the scope of their practice and without (but always preferably with) a doctors' order (see \*Rationale) .
- b) Surgical sutures, clips and/or staples can be removed by RNs and LPNs only with written or verbal order by the surgeon.

### 2. POLICY:

- a) Authorised SHS Registered Nursing personnel shall use aseptic technique to perform removal only of the following four (4) types of non-absorbable sutures as well as skin clips and/or staples for adults and children: Plain Interrupted Sutures, Plain Continuous Sutures, Mattress Interrupted sutures and Mattress Continuous sutures.
- b) Absorbable sutures (either simple and/or Intradermal/subcuticularsutures ) and retention sutures **shall not** be removed by SHS nursing personnel.

**3. RATIONALE:** Sutures, clip, staples and various adhesive closures promote and assist in optimum wound healing. Removal methods for sutures, clip and staples vary depending upon the type of suture, clip or staple used. It is important to remove sutures, clips and staples using aseptic technique whilst preventing any unnecessary discomfort, trauma or risk of infection to the client.

\*RN autonomy for skin suture removal is predicated upon the RN performing a thorough nursing assessment of the clients' status, wound healing and suture line prior to suture removal, the RN being fully accountable for the procedure and being properly oriented/trained in suture removal and supported, as needed (i.e. mentorship or new RNs; access to physicians when the nursing assessment contraindicates suture removal).

**4. CONTRAINDICATIONS:** Sutures, clip and /or staples are not to be removed if the wound shows signs of dehiscence and/or evisceration.

### 5. COMPLICATIONS:

- a) Wound Infections :
  - For Primary Care Patients: Notify the SHS physician or Nurse Practitioner.
  - For Homecare Patients: Swab the wound after cleansing and notify the patient's physician.  
If the patient does not have physician, notify the SHS physician or Nurse Practitioner



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### 6. CLINICAL ALERTS/SPECIAL PRECAUTIONS:

#### a) Clinical Alerts :

- **Retention Sutures:** In some cases, retention sutures are interspersed with interrupted sutures. Retention sutures are wired in place to make sure the incision remains closed after other sutures (or staples) are removed **only** by the surgeon usually between 2 to 6 weeks with an average of 3 weeks. It is important to be able to recognize the difference between retention sutures and interrupted sutures. See Figures 1. and 2 (page 3.).
- Notify the physician if the wound is incompletely healed or open, inflamed, has signs of infection (warmth, redness, swelling, pain etc.) and/or copious /purulent drainage.
- If the wound shows signs of dehiscence when removing the stitches, stop the process. Immediately apply Steri-strips/Butterfly strips to approximate the edges hold the skin place to avoid complete dehiscence. Cover with a dry sterile dressing and notify the doctor.
- While removing the suture, carefully remove any pieces. Fragments left in the skin can cause foreign body inflammation.

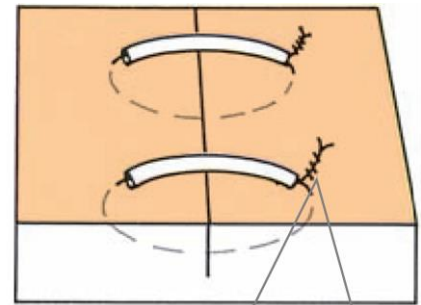


Fig 1 : Wire Retention Sutures

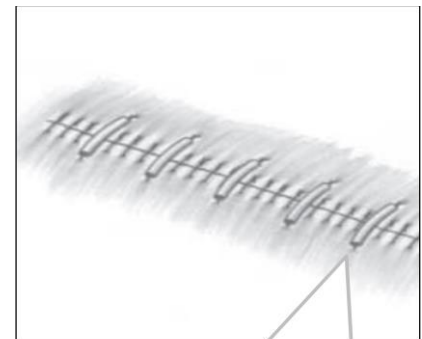


Fig 2. Rubber Retention Sutures

#### b) Special Precautions:

- For all types of sutures, it is important to grasp and cut the sutures in the right place to avoid pulling exposed (thus contaminated) suture material through subcutaneous tissue.
- Approximate Timing for Suture Removal :
  - o Head and neck: 3 to 5 days after insertion
  - o Chest and abdomen : 5 to 7 days after insertion
  - o Lower Extremities : 5 to 10 days after insertion
  - o Obese or slow-healing patients: 14 to 21 days after insertion



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**Related Polices & Procedures:** SHS Wound Management Policy

### 7. EQUIPMENT :

- Sterile clamp/forcep
- 0.9 % NaCl, sterile water or other antiseptic solution ,as prescribed
- Sterile container for the 0.9 % NaCl
- Swabsticks
- Nonsterile gloves
- Sterile 5 cm x 5 cm gauze pads for a moist dressing if needed or to hold the removed suture
- Sterile gloves or 2 sterile clamps to manipulate the moist dressing if needed
- Skin adhesives (i.e. Ster-Strips)
- Skin protector to protect the skin and help the skin adhesives stick
- Dressing, as needed
- 1 biorisk container
- 1 garbage bag.

### 8. PROCEDURE FOR SUTURE REMOVAL:

- Verify** medical prescription.
- Confirm** client's identity using 2 client identifiers.
- Check** if the client has allergies to any of the products used.
- Gather** the equipment
- Explain** the procedure to the client to ease his/her anxiety and facilitate cooperation.
- Assist** the client to assume a comfortable position
- Wash** hands.
- Put on** non-sterile gloves.
- If there is a dressing**, remove it and assess the state of the dressing (I.e. discharge, odour). Discard dressing in garbage bag.
- Assess the wound and the state of the sutures, as follows:**
  - type of suture
  - wound edges closed
  - tension on the incision
  - color of the skin around the suture
  - knots holding
  - signs of infection



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**Related Polices & Procedures:** SHS Wound Management Policy

- signs of healing, (i.e., edges well approximated, skin closure intact, lack of redness, swelling, exudates, or pain with palpation of area around the wound).

**k. Remove the soiled gloves and discard.**

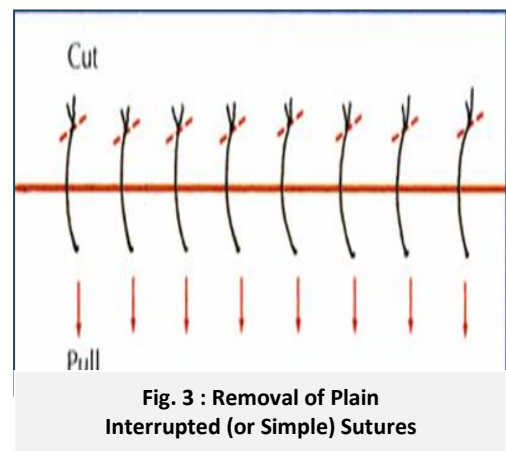
**l. Remove the skin sutures:**

- All suture types except absorbable:

- Cleanse the wound with 0.9 % NaCl or other sterile solution from the proximal to the distal ends of the wound to avoid contamination ;
- Carefully remove blood residue, drainage or fibers left by the dressing. **NB:** If the crusting will not come off the sutures, put on sterile gloves or use 2 sterile clamps to apply pads moistened with 0.9 % NaCl for 30 minutes before removing the crusting.
- Begin with the second stitch and remove every other stitch for large wounds (i.e. 2nd, 4th, 6th, 8th, etc.). **NB:** The physician may prescribe removing every other stitch and then removing the remaining stitches 24 to 48 hours later (if the incision tends to open). In this case, leave the stitches at both ends of the wound in place.

- Plain Interrupted Sutures (Fig. 3):

- Grasp the knot of the 2nd stitch with a sterile forcep and raise it off the skin to expose a small portion of suture that was below skin level.
- Place the tip of the sterile suture scissors against the skin and cut the stitch at the base of the knot while still holding it with the forcep.
- Drop the thread onto sterile gauze, taking care not to contaminate the tips of the forcep.
- Pull the suture up and out of the skin in a smooth continuous motion to minimise discomfort to the client. **NB:** Prevent the external part of the suture from sliding back into the skin to avoid wound contamination.
- Continue removing every other stitch If the wound does not show dehiscence, remove the rest of the stitches.



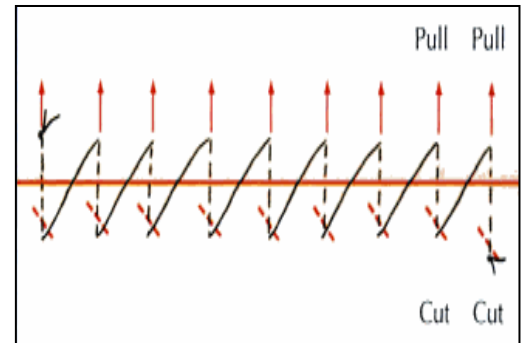
**Fig. 3 : Removal of Plain Interrupted (or Simple) Sutures**

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**Related Polices & Procedures:** SHS Wound Management Policy

- Plain Continuous (Uninterrupted) Sutures (Fig. 4) :

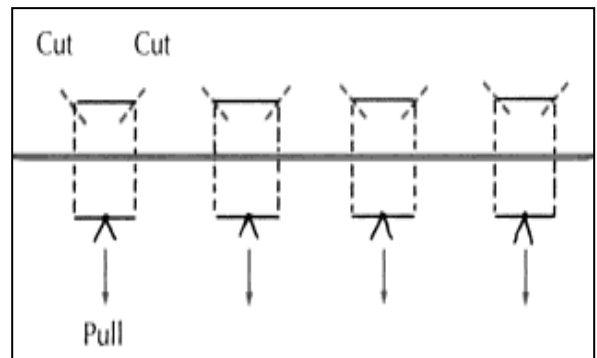
- Grasp the knot at the beginning of the first suture with a forcep;
- Cut the suture on the opposite side of the knot right where it enters the skin. *NB: Each stitch must be cut where it enters the skin to prevent any exterior thread from entering the skin;*
- Cut same side of the next suture and lift the first suture out in the direction of the knot;
- Proceed along the suture line, grasping each suture where you grasped the knot in the first one and repeat the procedure.



**Fig. 4 : Removal of Plain Continuous (or Uninterrupted) Sutures**

- Mattress Interrupted Sutures (Fig. 5):

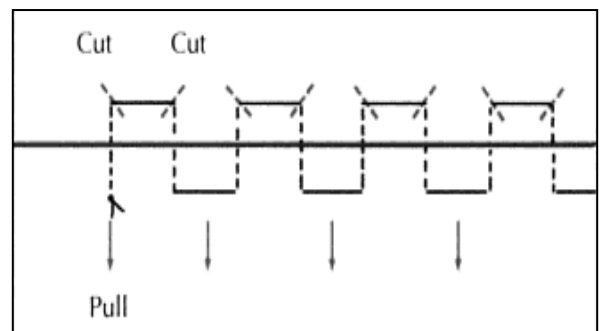
- Cut the 2 visible portions of the suture close to the skin opposite the knot. Lift the suture away from the skin and discard;
- Grasp the knot with the forcep and remove the suture that is under the skin by in the direction of the knot to avoid *the visible portion of too small to cut twice, cut only once . Pull suture out in the opposite direction & monitor for infection.*
- Repeat these steps for the remainder of the sutures.



**Fig. 5 : Removal of Mattress Interrupted Sutures**

- Mattress Continuous (Uninterrupted) Sutures (Fig. 6):

- Proceed as for Mattress Interrupted Sutures first by removing the small visible portion of the suture to prevent pulling it through & avoiding contamination;
- Then extract the rest of the suture by pulling gently and steadily in the direction of the knot.



**Fig. 6 : Removal of Mattress Continuous (Uninterrupted) Interrupted Sutures**



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- Absorbable Sutures :
  - **Simple absorbable sutures** will dissolve and detach and on their own over 3 to 6 weeks after surgery;
  - **Intradermal (or subcuticular) absorbable sutures:** The suture knots will separate from the skin on their own. If the suture bothers the client, cut the knots at both ends. If the suture breaks, leave it alone; it will dissolve or return to the surface on its own.
- Clips and/or Staples (Fig. 7): Using a clip/staple remover, remove staples according to the manufacturer's recommendations, usually as follows :
  - Slide the lower jaw of the sterile clip/staple remover under the bridge of the clip or staple ;
  - Squeeze the handles of the clip/staple remover together firmly to open the clip or staple ;
  - Once the clip/staple is bent in the middle and both edges are free of the skin, lift and remove gently and place in sharps container at the end of the procedure ;
  - *NB :Clip/staple removal may prove difficult if the skin has risen up around the clip/staples either due to swelling or poor clip/staple insertion technique.*



**Fig. 7: Removal of Clips /Staples**

- m. **Cleanse the suture line again with 0.9 % NaCl or other sterile solution and let dry**
- n. **Apply adhesive wound closures** (i.e. steri-strips, Butterfly closures). See Appendix 1.
- o. **Gather and discard equipment in appropriate area.**
- p. **Wash hands**
- q. **Do client/family teaching:** Client teaching should include :
  - Care of wound site, including dressing changes, if applicable;
  - Showering / hygiene restrictions, if applicable;
  - Reporting of any discomfort, pain, inflammation;
  - Follow-ups, if applicable.



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**r. Document the suture removal including the following:**

- Appearance of wound before and after suture removal
- Type and number of sutures, clips or staple removed ; presence of retention sutures, if applicable
- Type of wound dressing applied, if any
- Client’s condition after and tolerance of procedure
- Client teaching provided and any follow-ups required.

**9. INDICATORS AND FORMULAE:**

Indicators /Measures	Calculation
Skin-suture removal related incidents for adults/children per quarter	$\frac{\text{Number of skin-suture removal incidents for adults/children per quarter}}{\text{Total Number of Skin suture removals incidents for adults/children}} \times 100\%$

**10. REFERENCES**

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### 11. RESPONSIBILITIES:

- Executive Director: Responsible for approval of this policy.
- Managers of Community Health, Primary Care and Public Health and Home & Community Care Services : Responsible for dissemination, review, monitoring and compliance with this policy.
- All authorised nursing personnel: Responsible for complying with this policy.

### 12. DEVELOPED BY:

D. Richter & A. Malimban

Name & Title

Feb.2,2019

Date:

### 13. APPROVALS :

A. Khan

A. Khan, Executive Director

Feb. 2,2019

Date





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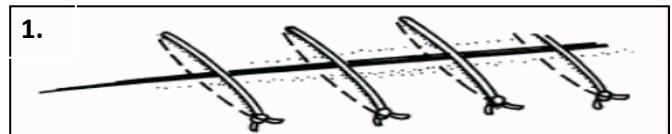
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### APPENDIX 1: WOUND CLOSURE SUTURE METHODS

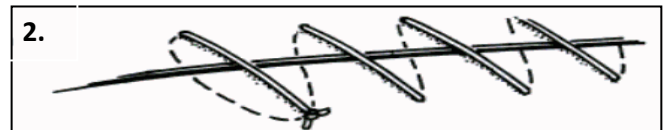
**1. Plain Interrupted Sutures:**

Each suture is sowed and tied independently. Half of the suture crosses under the wound and the other half appears above the skin surface.



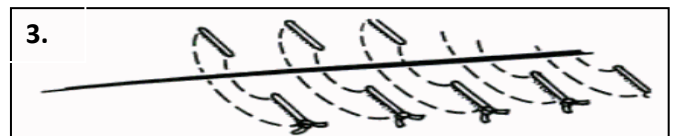
**2. Plain Continuous Sutures:**

A series of stitches are connected together with a knot tied at the beginning and the end of the suture



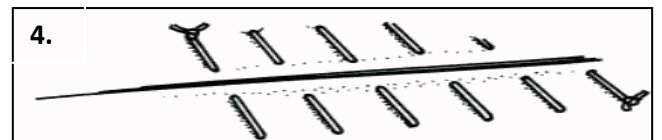
**3. Mattress Interrupted Sutures:**

A series of independent stitches are tunnelled completely under the incision line except for a tiny portion visible at the skin surface on each side of the wound.



**4. Mattress Continuous Sutures:**

This is a series of connected mattress stitches having a knot only at the beginning and the end.



**5. Absorbable Sutures:** Absorbable sutures are placed into subcutaneous tissue to eliminate dead space and into the dermis to minimize tension during wound healing. They are not intended to be used too close to the skin surface. This slows absorption and increases the likelihood permanent suture tracts, cyst formation and may compromise the appearance of the scar.

**6. Clips/ Staples** Surgical staples are a newer method of incision closure. They are typically made of stainless or titanium. Surgical staples are used most commonly to close lacerations on the scalp or to close the outer layers of skin in orthopedic procedures. They cannot be used on the face, hand, or other areas of the body





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where tendons and nerves lie close to the surface.  
Staples are usually removed seven to 10 days after surgery.

### 7. Adhesive Skin Closures :

a) **Steri-strips** are a primary means of keeping wounds closed after suture removal.



b) **Butterfly Closures** are used to close small wounds and assist healing.

