

Skin staple and clip removal

Revised: February 19, 2024

■ Critical Notes!

Appropriate for use with homecare.

■ Introduction

Practitioners can use skin staples or clips instead of standard sutures to close lacerations and surgical wounds. Because skin staples and clips can secure a wound more quickly than sutures, they can substitute for surface sutures when cosmetic results aren't a prime consideration, such as in abdominal closure. When placed properly, skin staples and clips distribute tension evenly along the suture line with minimal tissue trauma and compression, thereby facilitating healing and minimizing scarring. Because skin staples and clips are made from surgical stainless steel, tissue reaction is minimal.¹

Usually, practitioners remove skin staples and clips; however, some facilities permit qualified nurses to perform this procedure. The timing of skin staple or clip removal depends on the location of the wound (see [Timing for skin staple or clip removal](#)), the condition of the wound (absence of inflammation, drainage, and infection), and the patient's general condition.² Typically, removal doesn't require sterile technique. Using no-touch technique is usually acceptable unless the patient's condition warrants sterile technique.³

TIMING FOR SKIN STAPLE OR CLIP REMOVAL	
The general timing of skin staple or clip removal is based on the wound's location and the practitioner's opinion and experience. ²	
Wound location	Timing of removal
Arm	7–10 days ²
Face	3–5 days ²
Hand or foot	10–14 days ²
Leg	10–14 days ²

Palm or sole	14–21 days ²
Scalp	7–10 days ^{2,4}
Trunk	10–14 days ²

■ Equipment

- 4" × 4" (10- × 10-cm) gauze pads
- Facility-approved pain assessment tool
- Gloves
- Light source
- Sterile skin staple or clip extractor
- Optional: adhesive remover, adhesive strips or butterfly adhesive strips, antiseptic cleaning agent, other personal protective equipment, prescribed pain medication, sterile drapes, sterile gauze dressing, sterile normal saline solution, tape

■ Preparation of Equipment

Inspect all equipment and supplies. If a product is expired, is defective, or has compromised integrity, remove it from patient use, label it as expired or defective, and report the expiration or defect as directed by your facility.

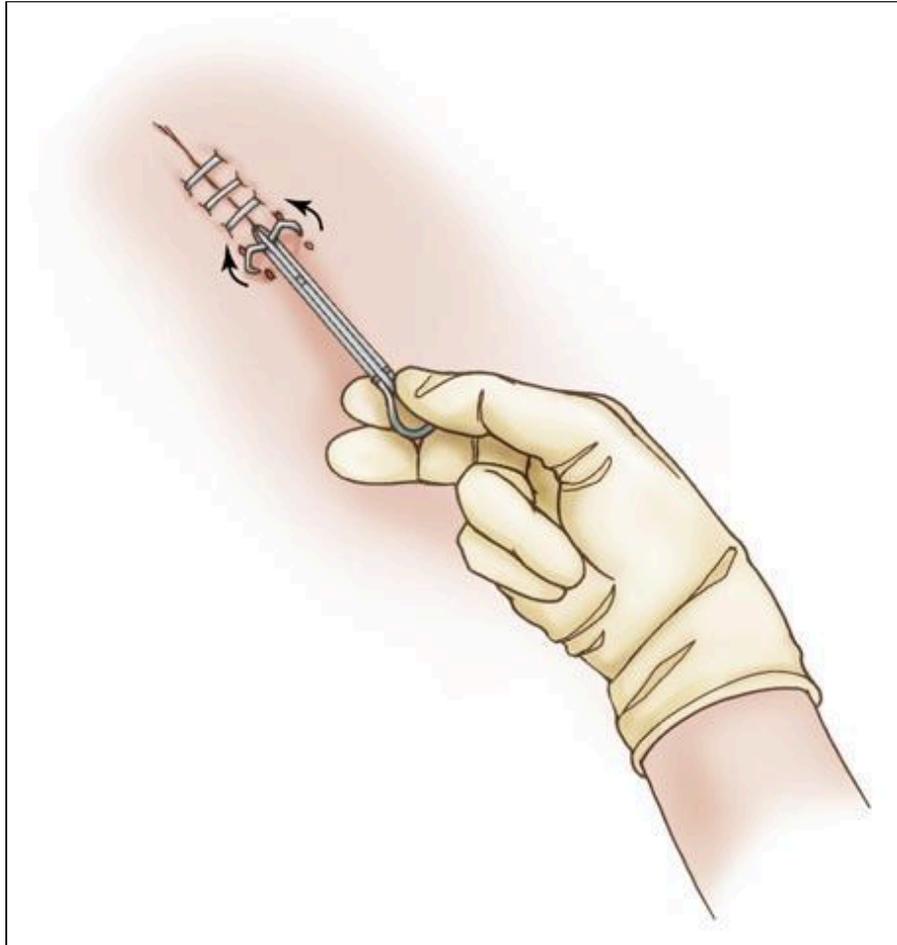
■ Implementation

- If your facility allows you to remove skin staples and clips, verify the practitioner's order *to confirm the exact timing and details for the procedure.*⁵ The practitioner may want you to remove only alternate skin staples or clips initially and to leave the others in place for an additional day or two *to help support the incision site.*¹
- Review the patient's medical record for any history of allergies, especially to adhesive tape, topical solutions, or medications.
- Gather and prepare the necessary equipment and supplies.
- Perform hand hygiene.^{6 7 8 9 10 11}
- Confirm the patient's identity using at least two patient identifiers.¹²
- Provide privacy.^{13 14 15 16}
- Explain the procedure to the patient and family (if appropriate) according to their individual communication and learning needs *to increase their understanding, allay their fears, and enhance cooperation.*¹⁷ Tell the patient to expect to feel a slight pulling or tickling sensation—but little discomfort—during skin staple or clip removal. Reassure the patient that removing the

supporting skin staples or clips won't weaken the incision line because the incision is healing properly.

- Screen for and assess the patient's pain using facility-defined criteria that are consistent with the patient's age, condition, and ability to understand.^[18]
- Treat the patient's pain, as needed and ordered, using nonpharmacologic, pharmacologic, or a combination of approaches. Base the treatment plan on evidence-based practices and the patient's clinical condition, medical history, and pain management goals.^[18]
- Raise the bed to waist level before providing care *to prevent caregiver back strain*.^[19]
- Perform hand hygiene.^{[6] [7] [8] [9] [10] [11]}
- Assist the patient into a comfortable position for the procedure. Be sure that the position doesn't create tension on the patient's incision site.
- Ensure that lighting is adequate.
- Place sterile drapes around the site or under the area, if appropriate, *to provide a protective barrier*.^[5]
- Perform hand hygiene.^{[6] [7] [8] [9] [10] [11]}
- Put on gloves and, as needed, other personal protective equipment *to comply with standard precautions*.^{[20] [21] [22]}
- If the patient's wound is covered with a dressing, carefully remove it *to prevent skin stripping and tearing*. Discard the used dressing in a waterproof trash container.^[22] Use adhesive remover, if needed and appropriate, to remove any old adhesive from the patient's skin.
- Assess the patient's incision site:
 - Note any redness, warmth, swelling, or drainage, *which may indicate infection*.
 - Be aware that a localized reaction to the skin staples or clips may cause some faint erythema. This finding is normal, but you must differentiate it from pathologic erythema.
 - Note whether the wound margins are well approximated.
 - Report any abnormal findings to the practitioner. *If the wound hasn't healed adequately, the skin staples or clips may need to remain in place longer. Any evidence of infection may require pharmacologic intervention.*
- Remove and discard your gloves.^[22]
- Perform hand hygiene.^{[6] [7] [8] [9] [10] [11]}
- Put on a new pair of gloves.^{[3] [20] [22]}
- Open the package containing the sterile skin staple or clip extractor, maintaining asepsis.
- Gently clean the patient's incision site using an antiseptic cleaning agent, if directed, working from the inner aspects to the outer aspects of the wound *to decrease the number of microorganisms present, thereby helping to reduce the risk of infection*. Alternatively, moisten dried crusts using sterile normal saline solution, if directed, *to ease skin staple or clip removal*.
- Pick up the sterile skin staple or clip extractor.
- Place the bottom of the skin staple or clip extractor under the center of the first staple or clip.

- Keeping the lower jaw of the instrument against the patient's skin, squeeze the handles of the skin staple or clip extractor together to close it (as shown below). Don't lift the skin staple or clip extractor while squeezing it *to avoid causing tension on the patient's skin*.



- Lift the skin staple or clip out of the patient's skin in a swift, smooth motion *to minimize pain*.
- Discard the skin staple or clip onto a gauze pad.
- Remove every other skin staple or clip until you reach the end of the patient's incision site and then return to the starting position and remove the rest, as ordered. *This approach helps detect wound dehiscence and allows every other skin staple or clip to remain in place, if needed, to secure the incision as the wound continues to heal.*⁵ Alternatively, remove the skin staples or clips in succession as ordered by the practitioner.
- If the incision line is gaping and incompletely healed upon skin staple or clip removal, apply adhesive strips and notify the practitioner.
- If desired, apply adhesive strips or butterfly adhesive strips even if the wound is healing normally *to give added support to the incision and to prevent lateral tension from forming a wide scar*. Leave the adhesive strips in place for 3 to 5 days.⁵ (See [Applying adhesive strips](#).)

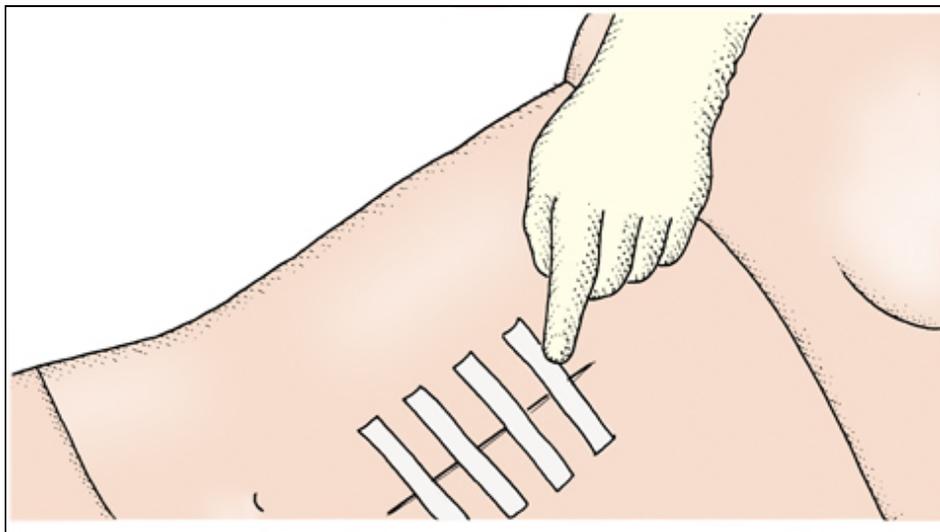


EQUIPMENT

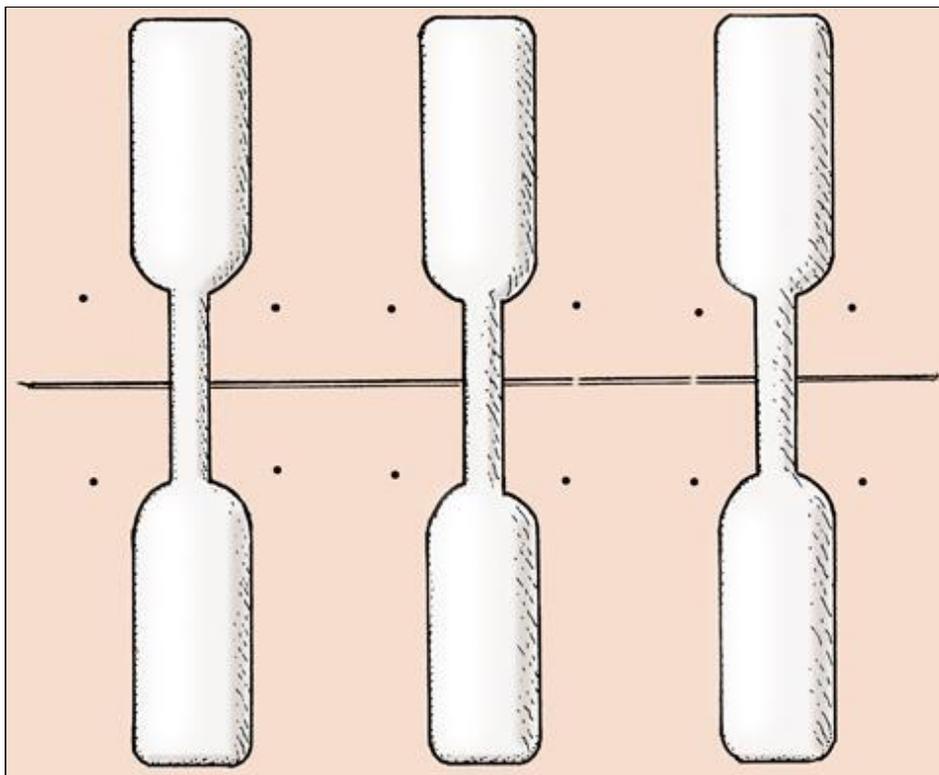
APPLYING ADHESIVE STRIPS

Adhesive strips are made of sterile, nonwoven, porous fabric tape. They're applied as a primary means of keeping a wound closed after skin staple or clip removal. Use these steps to apply adhesive strips:

- Apply alcohol-free skin protectant, if ordered, to the area around the patient's wound according to the manufacturer's instructions.
- Allow the skin protectant to become tacky before applying the adhesive strips *to help ensure that they stick to the patient's skin.*
- Bring the edges of the patient's skin together using your fingers, as needed.^[23]
- Attach one end of an adhesive strip to one side of the incision line and then gently pull the adhesive strip across the incision line and attach it on the opposite side. Don't pull adhesive strips tightly *to avoid skin shearing, blistering, and loss of adhesion from excessive tension.*^[23]
- Continue to place adhesive strips about ½" (1.3 cm) apart (as shown below) or closer depending on the size and location of the incision line.^[23]



Butterfly adhesive strips are sterile, waterproof adhesive strips that have a narrow, nonadhesive bridge connecting the two expanded adhesive portions (as shown below). These strips help close small wounds and assist with healing after skin staple or clip removal.



- Assess the need for a dressing or covering. Apply a sterile gauze dressing, if needed, *to reduce the risk of infection and irritation from clothing.*
- Return the bed to the lowest position *to prevent falls and maintain the patient's safety.*^[24]
- Discard used supplies in appropriate receptacles.^[22] If you used a reusable skin staple or clip extractor, prepare it for reprocessing.^{[25] [26]}
- Remove and discard your gloves and, if worn, other personal protective equipment.^[22]
- Perform hand hygiene.^{[6] [7] [8] [9] [10] [11]}
- Report any abnormal findings to the practitioner.
- Reassess and respond to the patient's pain by evaluating the response to treatment and progress toward pain management goals. Assess the patient for any adverse reactions and risk factors for adverse events that may result from treatment.^[18]
- Perform hand hygiene.^{[6] [7] [8] [9] [10] [11]}
- Document the procedure.^{[27] [28] [29] [30]}

■ Special Considerations

- If skin staple or clip removal is difficult, notify the practitioner. *Skin staples or clips that are placed too deeply within the patient's skin or were left in place too long may resist removal.*^[31]

■ Patient Teaching

Teach the patient and family (if appropriate) how to remove the dressing and care for the wound at home, as appropriate. Inform them about the practitioner's guidelines regarding showering. Instruct

the patient and family to call the practitioner immediately if the wound opens, drains, or becomes inflamed. Explain that the redness around the patient's incision site should disappear gradually and that, after a few weeks, only a thin line should be visible. When sun exposure is likely, encourage the patient to keep the wound covered initially and then to use a sunblock product on the healed wound for 3 to 6 months *to protect the scar*.³² ³³

■ Complications

Complications associated with skin staple or clip removal may include:

- infection
- loss of range of motion or sensory perception
- abnormal appearance
- wound dehiscence
- incomplete removal.⁵

■ Documentation

Documentation associated with skin staple and clip removal includes:

- date and time of skin staple or clip removal
- number of skin staples or clips removed
- number of skin staples or clips remaining
- assessment of incision site before and after skin staple or clip removal
 - wound appearance
 - approximation of wound margins
 - presence of redness, warmth, swelling, or drainage
- application of dressing or adhesive strips
- any complications
 - date and time of practitioner notification
 - any prescribed interventions
 - response to those interventions
- tolerance of the procedure
- pain assessment findings
- any pain treatments administered
- teaching provided to the patient and family (if applicable)
 - understanding of that teaching
 - follow-up teaching needed.

This procedure has been reviewed by the Academy of Medical-Surgical Nurses.



■ Related Procedures

- [Skin staple and clip removal, pediatric](#)

■ References

([Rating System for the Hierarchy of Evidence for Intervention/Treatment Questions](#))

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Rating System for the Hierarchy of Evidence for Intervention/Treatment Questions

The following leveling system is adapted from *Evidence-Based practice in nursing & healthcare: A guide to best practice*, Fifth edition, by Bernadette Mazurek Melnyk and Ellen Fineout-Overholt (2023).

Level I	Evidence from a systematic review or meta-analysis of all relevant randomized controlled trials (RCTs)
Level II	Evidence from well-designed single RCTs (experimental)
Level III	Evidence from well-designed nonrandomized controlled trials (quasi-experimental), systematic reviews of a complete body of evidence, and intervention studies using mixed methods
Level IV	Evidence from well-designed case-control and cohort studies (observational)
Level V	Evidence from systematic reviews of qualitative and descriptive studies
Level VI	Evidence from single descriptive and qualitative studies, evidence-based practice implementation, and quality improvement projects
Level VII	Evidence from expert opinion, expert committee reports, and literature reviews

Data from Gyatt, G., & Rennie D. (2002). *Users' guides to the medical literature*. American Medical Association; Harris, R. P., et al. (2001). *Current methods of the U.S. Preventative Services Task Force: A review of the process*. *American Journal of Preventative Medicine*, 20, 21-35.