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From Dressing to Scar Maturation: A Practical Guide to Post-Procedure Care in Dermatologic Surgery

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At-A-Glance Principles

- Prioritize a clean, moist, protected wound environment (e.g., petrolatum with a non-adherent dressing) to reduce crusting and support re-epithelialization.
- Avoid routine use of topical antibiotics on clean dermatologic wounds; randomized studies show similar infection rates versus petrolatum, with a higher risk of allergic contact dermatitis in antibiotic-treated groups.[1]
- Minimize wound tension early (first 6–12 weeks) through activity modification, appropriate timing of suture removal, and consideration of prolonged taping/Steri-strips at high-tension sites to reduce scar widening and hypertrophy.[2,3]
- Start silicone therapy (gel or sheets) once epidermal integrity is restored, which often occurs 2 weeks after suture removal, and consider early use in patients at higher risk for hypertrophic or keloid scarring.[4,5]
- Treat the 'inflammatory' scar early, as persistent erythema/telangiectasia and early hypertrophy often respond better to early intervention (e.g., vascular laser, intralesional corticosteroid) than that for late-stage scars.[6]

Timeframe	Goals	What to do	Escalate if…
Day 0–2	Achieve hemostasis; protect the repair; pain/swelling control	• Set expectations with patients. • Maintain the pressure dressing for 48 hours. • Elevate the area for swelling control. • Over-the-counter pain control (acetaminophen ± NSAID). • Avoid stretching, exercise, and heavy lifting.	• Bleeding is not controlled despite 20 minutes of firm pressure; rapidly expanding swelling/ hematoma develops; or pain is severe or disproportionate. • Infection is unlikely within the first 48 hours.
Day 2–7	Maintain a clean and moist environment; monitor for early issues	• Perform daily wound care: gentle cleansing (saline or water), pat dry, apply a layer of petrolatum, and cover with a non-adherent dressing. Change daily or when saturated. • Showering is usually permitted after 48 hours but avoid direct water pressure and soap. • Avoid stretching, exercise, and heavy lifting.	• This period carries the highest risk for infection. Escalate for increasing pain or warmth, purulence, fever, spreading erythema, malodor, or wound edge separation.
Week 1–6	Tension control; initiate early scar optimization	• Remove sutures at an appropriate timeline based on skin tension (see Section 2.4). • Continue petrolatum until fully epithelialized. Consider paper tape/Steri-strips across linear scars to offload tension (often 6–12 weeks on high-tension sites). • Start silicone gel or sheets once the epidermis is intact. • Begin gentle scar massage when fully epithelialized (often 2–4 weeks after suture removal). • Emphasize sun protection (keeping scars covered with a bandage when in direct sunlight). • Re-introduce stretching, exercise, and heavy lifting slowly after suture removal.	• Early intervention for scar management is warranted for raised, firm, or pruritic scars developing early, persistent erosions, exuberant granulation, or functional limitation.
Month 2–12	Scar remodelling (colour, thickness, pliability); monitor for tumour recurrence	• Maintain sun protection (SPF 50+) with re-application every few hours. • Continue silicone therapy for at least 12 weeks for ≥12 hours per day. • Consider vascular laser for persistent erythema/ telangiectasia. • Use intralesional corticosteroids ± 5-FU for hypertrophic scars.	• Late intervention for scar management is warranted for progressive thickening/ contracture, significant symptoms, patient distress, or concern for tumour recurrence at the scar site.

Table 1. Postoperative care timeline; *courtesy of Jorge R. Georgakopoulos, MD, FRCPC*

Abbreviations: FU: fluorouracil; **NSAID:** nonsteroidal anti-inflammatory drug

Section 1. Procedure-Specific Postoperative Care

Across dermatologic surgery, most outcomes are driven by a few modifiable variables: hemostasis, moisture balance, tension, and early inflammation control. The following notes offer a pragmatic framework for tailoring care without overcomplication.

1.1 Linear Closures (Excision, Elliptical Biopsy, Layered Repair, Mohs Surgery)

Pressure dressings are most useful for repairs with dead space, in patients taking antithrombotic medications, and at highly vascular sites such as the scalp and face. Patients should be counselled to restrict activity and avoid stretching across the repair for at least 1–2 weeks, with longer periods recommended for high-tension sites such as the back, shoulders, and joints. Sutures should be kept clean and lightly lubricated with a thin layer of petrolatum. After suture removal, consider prolonged support with paper tape/Steri-strips at high-tension sites to reduce the risk of scar widening.[2,3]

1.2 Punch Biopsies

Closed punch sites should be treated similarly to small linear closures, with daily application of petrolatum plus non-adherent dressing; consider pressure dressings for sites on the scalp or face. If punch biopsy sites are left open (selected scalp or small truncal sites), wound care should be managed as secondary intention healing **(see Section 1.4)**.

1.3 Shave Biopsies

For shave biopsies, the goal of postoperative care is rapid re-epithelialization with a moist, non-traumatized wound bed. Daily care should consist of gentle cleansing followed by application of petrolatum and coverage with a non-adherent dressing. Patients should be advised to avoid picking at crusts, as crust formation is a marker of excess dryness/trauma. The risk of bleeding is greatest in the first 24 hours; therefore, pressure instructions should be reinforced, and aspirin/nonsteroidal anti-inflammatory drugs (NSAIDs) should be avoided if clinically appropriate. For larger shave biopsies or sites exposed to friction, consider hydrocolloid/foam dressings to reduce adherence/trauma.

1.4 Electrodessication and Curettage (ED&C) and Secondary-intention Wounds Including Shave Excisions and Post-Mohs Surgery

Secondary intention can provide acceptable cosmetic and functional outcomes for select defects when patients are counselled and wound care is optimized.[7]

During the Initial 24–48 hours, maintain a pressure dressing and bleeding protocol should be reinforced, emphasizing the importance of firm uninterrupted pressure. After 24–48 hours, daily wound care should include cleansing followed by application of petrolatum and coverage with a non-adherent dressing. For highly exudative wounds, consider absorbent dressings (foam/alginate) with petrolatum applied to the wound edges.

Patients should be counselled to expect a longer healing curve (often several weeks, depending on wound size and site), and advised about the likelihood of temporary erythema and contour changes. Troubleshoot common issues, such as hypergranulation tissue, (which may be managed with silver nitrate or topical corticosteroids to exuberant tissue), maceration (by reducing occlusion/exudate), and pain, which should prompt assessment for infection or overly dry dressing.

Section 2. Phase-based Care

2.1 Bandaging and Dressings: Choosing the Right Level of Occlusion

A simple dressing strategy prevents most downstream issues by aiming for a wound environment that is moist but not macerated. Contemporary wound-healing principles emphasize that “Skin cells swim, they don’t crawl.” Older theories about drying out wounds lead to excess crusting and should be avoided.

2.2 Immediate Postoperative Period (0–48 hours)

Patients should be instructed on bleeding protocol: remove the outer wrap if it becomes saturated, apply firm, continuous pressure with clean gauze for 20 minutes (no peeking). Repeat once if needed; seek medical attention if bleeding is persistent. Pain and swelling can be managed with elevation and/or compression. Acetaminophen is preferred for pain, with NSAIDs used only when appropriate. Keep dressing dry, and patients should avoid soaking, hot tubs, and heavy exertion during this period.

2.3 Days 2–7: Cleanse, Moisturize, and Protect

Daily cleansing of the wound with saline water, then pat dry, avoid rubbing. Apply a thin layer of petrolatum and cover with a non-adherent dressing that is changed daily or sooner if saturated. Showering is usually acceptable after 48 hours; however, patients should avoid direct water pressure, soaps applied to the site, and soaking in baths until the wound is epithelialized. Patients should be counselled on expected normal findings, including mild oozing/serous crusting, localized tenderness, and mild erythema at the wound edges.

2.4 Suture Removal Timing

Adjust based on tension, location, patient factors (age, smoking, steroids), and closure type.

Face/neck	5–7 days
Trunk	12–14 days
Arms/legs	12–14 days
Back/shoulders (high tension)	14 days
Scalp	12–21 days
Hands/feet over joints (consider staged removal with taping)	14–21 days

2.5 Weeks 1–6: Tension Management and Early Scar Care

Once epidermal integrity is restored, start silicone gel or sheeting **(see Section 3)**. To further reduce tension across linear scars, especially those on the back, shoulders, or chest, consider applying paper tape; many clinicians continue taping for 6–12 weeks.[2,3] Begin scar massage once the wound is fully healed, typically 2–4 weeks after suture removal, using light pressure initially (see Section 3).[8,9] Sun avoidance is essential during this period to reduce the risk of post-inflammatory dyspigmentation. Scars should be protected with bandaging during sun exposure for the first 4 weeks, with sunscreen (SPF 50+) use thereafter.

Dressing	Best for	How to use	Pitfalls / pearls
Pressure dressing (gauze with tape)	First 24–48 hours for vascular sites, dead space, and for patients on anticoagulation.	Apply firm compression, keep dry, and remove per instructions.	Too tight can cause pain/ischemia, replace if dressing becomes saturated.
Non-adherent contact layer (e.g., Telfa, Adaptic) or a thick petrolatum layer with gauze and tape (lower cost)	Most wounds after day 1–2.	Apply petrolatum to the wound, then a non-adherent layer with gauze.	If adherence occurs increase petrolatum or switch to a silicone contact layer.
Hydrocolloid	Shave biopsies/secondary intention wounds with low-moderate exudate; areas of friction.	Leave 2–5 days if intact; change if leaking/odour develops.	Over-occlusion or heavy exudate may cause maceration; counsel patients regarding expected gel-like residue.
Foam / alginate	Secondary intention wounds with moderate to high exudate.	Use an absorbent layer; protect the periwound skin with a petrolatum or barrier ointment.	May adhere to dry wounds; reassess exudate frequently.

Table 2. Simplified guide to common dressing options; *courtesy of Jorge R. Georgakopoulos, MD, FRCPC*

2.6 Months 2–12: Remodelling and Targeted Interventions

Continue silicone gel for at least 12 weeks **(see Section 3)**.[4,5] For scars with persistent erythema/telangiectasia, consider vascular laser therapy, such as pulsed dye laser (PDL), once initial healing is complete; randomized trials support early PDL for improving scar appearance.[6] For early hypertrophic change characterized by a firm, raised or pruritic scar, consider using intralesional triamcinolone ± 5-fluorouracil (FU), alongside continued use of taping and silicone therapy.

Section 3. Evidence-informed Scar Management Toolbox

Silicone gel and silicone sheeting represent the best supported topical option for hypertrophic/keloid prevention and treatment. Start therapy following re-epithelialization, typically 2 weeks after suture removal. Silicone gel may be applied as a thin film twice daily or as silicone sheets (ideally ≥12 hours per day). Treatment should continue for at least 12 weeks and may be extended for high-risk scars or until the patient is satisfied, in some cases up to 1 year.

The evidence base supporting silicone therapy is robust. A Cochrane review including 20 trials and 873 participants demonstrated reduced hypertrophic scarring in prevention studies, and improvements in scar thickness and colour in treatment studies.[4] Similarly, a systematic review of over-the-counter scar products identified silicone gel and sheets as the only therapy supported by multiple higher-quality randomized controlled trials; evidence for alternatives such as onion extract, vitamin E, and trolamine was weak or inconsistent.[5]

Patient counselling is essential for managing expectations. Improvements with silicone therapy are gradual and are most pronounced for scar thickness, pliability, and erythema.

3.2 PaperTape or Steri-strips for Tension Offloading

These are applied after suture removal or once the wound has sealed, particularly for incisions located in high-tension areas or those crossing relaxed skin tension lines. The evidence base is robust for using paper tape. Randomized trials have demonstrated reduced hypertrophic scar formation and stretched scars,[2] and reviews of non-stretch taping techniques have reported improvements in height, colour, and pruritis.[3] To apply, tape should be placed along the scar line with gentle approximation of the wound edges and changed every 3–7 days or as needed. In high-tension regions, continue for 6–12 weeks.

3.3 Scar Massage

Scar massage can be started once the wound is fully epithelialized and non-tender (often 2–4 weeks post-suture removal). Massage should be performed for 1–2 minutes, 2–3 times/day using moisturizer. Patients should start gently and increase pressure as tolerated. While the strongest evidence for scar massage comes from the burn/hypertrophic scar literature,[8,9] clinical experience supports its subjective benefits.

3.4 Photoprotection and Dyspigmentation

To minimize irritation, cover the scar line with bandaging for the first 4 weeks, to avoid irritation with sunscreen use. After 4 weeks, patients should use daily broad-spectrum sunscreen with SPF 50 or higher, along with physical sun protection (hat/clothing) for 6–12 months to reduce the risk of post-inflammatory hyperpigmentation and persistent erythema. If hyperpigmentation persists after complete healing, consider topical depigmenting agents (e.g., azelaic acid, hydroquinone, when appropriate). When erythema/telangiectasia is present, treat the underlying vascular component, with options including PDL.

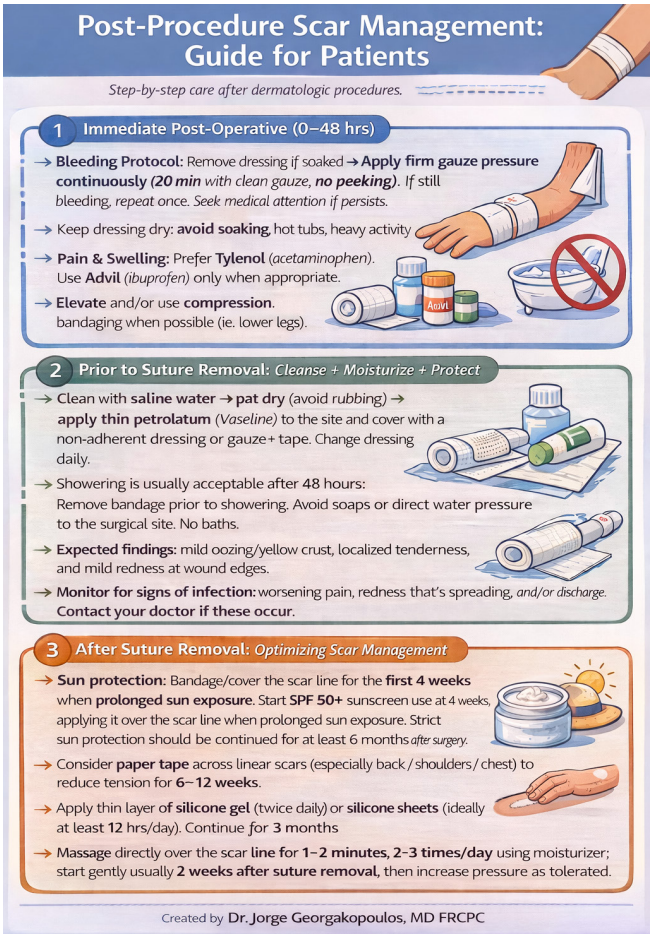
3.5 Hypertrophic Scars and Keloids: Early Escalation

Early identification of high-risk patients, including those with prior hypertrophic/keloid scars, darker skin phototypes, wounds located at high-tension sites (sternum, shoulders, back), and wounds crossing tension lines. First-line management consists of silicone therapy combined with tension offloading (tape) along with symptom control using emollients and antipruritics. For scars demonstrating early progression, treatment can be escalated to intralesional triamcinolone (e.g., 2.5–10 mg/mL for facial

sites and 10–40 mg/mL for truncal sites) ± 5-FU. Consider early referral for laser/fractional resurfacing or combination regimens.

Conclusions

This article provides a quick-reference guide for dermatologists and other clinicians performing dermatologic surgery, outlining stepwise post-procedure wound care, scar optimization, and complication avoidance. The included timelines, tables, and figures are designed to support efficient point-of-care review and can be used to refine standardized clinic post-care instruction sheets for patients. A patient centred flow diagram summarizing postoperative care and scar management timelines is presented in **Table 1**.



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