

Preoperative History

Medical history with particular attention to:

- Coronary artery disease
- Hypertension
- Arrhythmias
- Pacemaker or defibrillator
- Heart murmurs
- Artificial heart valves
- Prosthesis or shrapnel
- Bleeding or clotting disorders
- Hepatitis or HIV
- Keloids or hypertrophic scars
- Alcohol use

- Cigarette smoking
- Pregnancy (consider consultation with obstetrician)

Medications with particular attention to:

- Anticoagulants (recommendations on next page)
- Herbal and over the counter medications including but not limited to:
 - Vitamin E
 - Feverfew
 - Fish oil
 - Garlic
 - Ginger
 - Gingko biloba
 - Ginseng

- Others: dong quai, licorice, devil's claw, and danshen have the same antithrombotic effect and should be discontinued 7–10 days preoperatively
- Recent use of oral retinoids (e.g., isotretinoin): may impair healing
- Immunosuppressants (e.g., TNF-inhibitors, cyclosporine, methotrexate, mycophenolate mofetil, and prednisone): may impair healing
- Medication allergies

Recommendations for management of anticoagulants:

- *Aspirin*: irreversibly inhibits platelet aggregation via acetylation of cyclooxygenase. One

aspirin affects a platelet throughout its lifespan of 6–10 days. Medically indicated aspirin should not be stopped. However, if the patient can safely discontinue aspirin without a high risk for stroke or myocardial infarction, it should be withheld for 10 days before surgery and then possibly 5–7 days after surgery (after consultation with the patient's internist or cardiologist when appropriate). There may be a risk of rebound hypercoagulability with cessation.

- *Thienopyridines* (e.g., clopidogrel, ticlopidine): irreversibly inhibit platelet aggregation via inhibition of an ADP receptor on platelets. Normal platelet function returns 5–7 days

after discontinuing these medications. In patients on these drugs for cardiac or neurologic indications, it is generally not advisable to stop the drug.

- *Warfarin* (Coumadin): inhibits vitamin K dependent clotting factors and is commonly used in patients with a history of atrial fibrillation, DVT, and in patients with artificial heart valves. Dermatologic surgery can be safely performed without stopping warfarin as long as the $\text{INR} \leq 3$. An INR should be checked within a week of planned surgery.

- *Dabigatran etexilate* (Pradaxa®): is an oral direct thrombin inhibitor used to reduce the risk of stroke and blood clots in patients with atrial fibrillation (not caused by heart valve abnormalities) and generally should be continued.

Note: The combination of two or more of these agents likely increases the risk of bleeding complications from surgery and temporary cessation of one of these agents after appropriate consultation with the cardiologist/internist/neurologist should be considered.

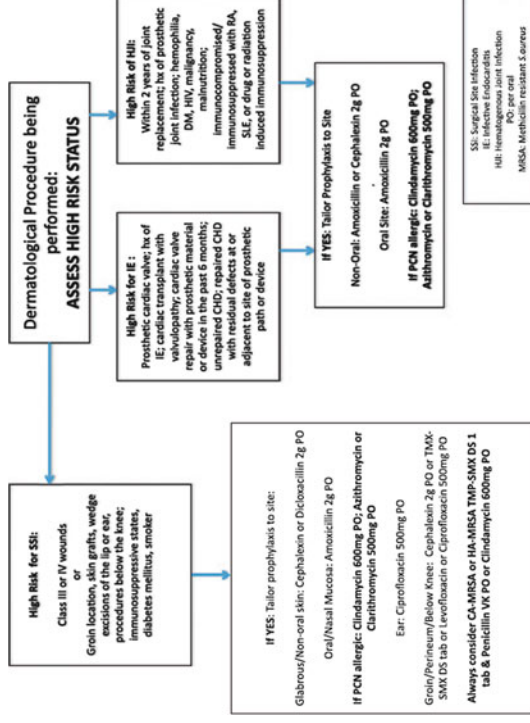


Figure 2.1 Guidelines for prophylactic and empiric antibiotics. Adapted from Rossi A, Mariwalla K. Prophylactic and empiric use of antibiotics in dermatologic surgery: a review of the literature and practical considerations. *Dermatol Surg* 2012;38:1898–1921

Table 2.1 Commonly used prophylactic antibiotic agents for cutaneous surgery

Antibiotic	Spectrum of activity/notes
Dicloxacillin	<i>Staphylococcus</i> (methicillin sensitive), <i>Streptococcus</i>
Cephalosporins (e.g., Cephalexin)	Gram+ cocci, <i>E. coli</i> , <i>Klebsiella</i> , <i>Proteus</i>
Clindamycin, Erythromycin, Azithromycin	If PCN allergy (note: approximately 30% may be resistant to erythromycin)
Fluoroquinolones (e.g., Ciprofloxacin)	<i>Pseudomonas aeruginosa</i>
Vancomycin (intravenous)	Methicillin-resistant <i>Staph aureus</i> (MRSA), <i>Staph epidermidis</i> , Valve <60 days
Linezolid (po)	MRSA and vancomycin-resistant enterococcus, streptococcus (note: can cause thrombocytopenia)

An oral dose is usually given 1–2 h prior to surgery. If surgery is prolonged or delayed, a second dose may be given 6 h postoperatively

Table 2.2 Antiseptic scrubs

Group	Spectrum	Onset	Sustained activity	Comments
Alcohol	Gram+	Fast	None	No killing of spores, antibacterial only, flammable (caution with electrocautery)
Iodine (<i>Lugol's</i>)	Gram+/-	Fast	None	May sensitize patient (contact dermatitis)
Povidone-iodine (<i>betadine</i>)	Gram+/-, fungi	Moderate	Up to 1 h	Absorbed through skin, must dry to be effective, mucosal absorption during pregnancy may be associated with fetal hypothyroidism
Hexachlorophene (<i>pHisohex</i>)	Gram+	Slow	Yes	Teratogen, not sporicidal
Chlorhexidine (<i>hibiclens</i>)	Gram+/-	Fast	Yes	Oculotoxicity and ototoxicity
Benzalkonium (<i>Zephiran</i>)	Gram+/-	Slow	None	

Note: shaving a preoperative site the night before surgery is associated with higher infection rates than with using a depilatory or not removing the hair at all. If hair must be removed, clipping the hair immediately before the procedure is preferable

Section B

Excisional and Non-excisional Surgery

Table 2.3 Local anesthetics

Generic name/trade name	Duration	Onset	Uses	Special considerations	Maximum dosage with epi ^a (1:100,000)
<i>Amides</i>					
Lidocaine (Xylocaine [®])	1–2 h with epinephrine	Rapid	Most local infiltration	May cause CNS and cardiac toxicity, pregnancy class B (without epi)	7 mg/kg
Mepivacaine (Carbocaine [®])	1–2 h with epinephrine	3–20 min	Most local infiltration and nerve blocks		7 mg/kg
Bupivacaine (Marcaine [®])	12–36 h	5–8 min	Nerve blocks and long procedures	Very prolonged effect, good for post-op pain	

(continued)

Table 2.3 (continued)

Esters					
Generic name/trade name	Duration	Onset	Uses	Special considerations	Maximum dosage with epi ^a (1:100,000)
Procaine (Novocaine®)	30–60 min	2–5 min	Dental procedures	Short duration; allergic reactions; and cross-reacts with topical anesthetics, hair dyes, sunscreens, and sulfur derivatives	15 mg/kg
Tetracaine (Pontocaine®)	4–6 h	15–45 min	Topical (cornea, conjunctiva)	Slow onset, long duration	

^aEpinephrine prolongs anesthesia and decreased the risk of systemic anesthetic toxicity due to decreased absorption via vasoconstriction. Also decreases bleeding via vasoconstriction

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Excisional and Non-excisional Surgery

Anesthetics: Key Facts

- Two main classes: Amides and Esters
- Esters can cause allergic reaction due to PABA (an ester intermediate metabolite) which cross-reacts with paraphenylenediamine (PPD), sulfonamides, and other ester anesthetics
- Esters should not be used in patients with pseudocholinesterase deficiency
- Three portions of the chemical structure:
 1. Aromatic: responsible for onset of activity
 2. Intermediate (middle) chain: determines class (amide vs. ester)
 3. Amine: determines duration of action
- Bupivacaine has the longest duration of action
- Tetracaine is the most potent ester
- Cocaine is the most vasoconstrictive ester
- Lidocaine Pearls:
 1. 1 % lidocaine = 10 mg/mL
 2. Pregnancy class B (without epinephrine)
 3. Lidocaine toxicity: first sign is lightheadedness/circumoral paresthesia/metallic taste → tinnitus/slurred speech/tremor/confusion → seizure/cardiopulmonary depression/death/coma
 4. Recommended maximum dosage with epinephrine = 7 mg/kg (500 mg in 70 kg)

person), without epinephrine (plain)
4.5 mg/kg (300 mg total in 70 kg person),
Tumescent lidocaine 45–55 mg/kg (see
Table 2.4/page 27)

- Digital tourniquets can be left on for 10–15 min
 - Local anesthetics mechanism of action: blocking sodium influx
 - Patient loses the following in this order: sense of temperature, pain, touch, pressure, vibration, proprioception, and motor function
 - Epinephrine toxicity manifested by tremor, increased heart rate, diaphoresis, palpitations, headache, increased blood pressure, and chest pain (if hypotension consider vasovagal reaction rather than toxicity)
 - Epinephrine drug contraindications: MAOIs,
- tricyclic antidepressants, phenothiazines, propranolol, amphetamines, and digitalis
 - Epinephrine contraindications: peripheral vascular disease, acute angle glaucoma, severe hyperthyroidism, unstable mental status, pregnancy, severe hypertension or cardiovascular disease
 - Other options for injectable anesthesia include promethazine (Phenergan), diphenhydramine (Benadryl), and normal saline
 - Topical anesthesia:
 1. EMLA (eutectic mixture of 2.5 % lidocaine, 2.5 % prilocaine) under occlusion—Note: risk of methemoglobinemia with prilocaine in infants
 2. LMX (4 or 5 % lidocaine)

Table 2.4 Tumescence anesthesia solution

Agent	Amount (cc)	Final concentration
Normal saline (0.9 %)	1,000	
Lidocaine 1 %	50	0.1 %
Epinephrine 1:1,000	1	1:1,000,000
Bicarbonate 8.4 %	10	

Notes

^aMaximum safe dose of lidocaine: 45–55 mg/kg

^bLocal anesthesia persists for up to 24 h after tumescent liposuction (peak plasma levels 4–14 h)

Section B

Excisional and Non-excisional Surgery

Table 2.5 Electrosurgery

Modality	Terminal ^a	Voltage ^b	Amperage ^c	Comments
Electrofulgaration	1	Very high	Very low	Sparks emanate from electrode which does not touch the skin, most superficial damage
Electrodesiccation	1	High	Low	Electrode touches the tissue, superficial destruction (avascular lesions)
Electrocoagulation	2	Low	High	Deeper penetration and better hemostasis than electrodesiccation
Electrosection	2	Low	High	Vaporizes tissues with little heat spread, minimal peripheral tissue damage

(continued)

Section B

Excisional and Non-excisional Surgery

Table 2.5 (continued)

Modality	Terminal ^a	Voltage ^b	Amperage ^c	Comments
Electrocautery	I	N/A	N/A	Red, hot tip (high resistance metal tip). Works in bloody fields and nonconductive surfaces. No current passes through patient— safest to use with ICD^d
Galvanic current	I	Low	Low	Direct current, used for electrolysis and iontophoresis

^a Terminal: 1 terminal (aka monopolar): one active electrode, no grounding; 2 terminals (aka bipolar): one active electrode, one grounding electrode (place grounding pad close to surgery site and aware from ICD)

^b Voltage: electric potential difference between the terminal and the skin

^c Amperage reflects the flow of electric current

^d ICD (implantable cardiac device)

Cryosurgery

Defined: Targeted tissue destruction via necrosis induced by subzero temperatures

Agent	Boiling point (°C)
Liquid nitrogen	−195.6
Nitrous oxide	−89.5
Dry ice (CO ₂)	−78.5
Freon	−40.8 to −3.8
Ethyl chloride	13.1

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Cell type	Temperature required (°C)
Melanocyte necrosis ^a	-5
Keratinocyte necrosis	-25
Benign lesion treatment	-25
Skin cancer treatment	-50

^aTherefore risk of hypopigmentation with cryosurgery

Table 2.6 Recommended surgical margins

Melanoma (based on breslow depth) ^a	Margin size	Comments
In situ	0.5 cm ^b	Lentigo maligna on the face consider 0.7–1 cm margins vs. staged excision vs. Mohs surgery (with immunostains)
≤1 mm	1 cm	Consider sentinel lymph node biopsy in <1 mm melanoma if ulceration or mitotic rate $\geq 1 \text{ mm}^{-2}$
1.01–2 mm	1–2 cm	
>2 mm	2 cm+	
Squamous cell carcinoma		
Low risk	3–4 mm	
High risk ^c	6 mm	Consider Mohs surgery

(continued)

Table 2.6 (continued)

Melanoma (based on breslow depth) ^a	Margin size	Comments
Basal cell carcinoma		
<2 cm	3–4 mm	
≥2 cm	6 mm	Consider Mohs surgery

^aSladden MJ, et al. Surgical excision margins for primary cutaneous melanoma. Cochrane Database Syst Rev. 2009;(4):CD004855

^bRecent data suggests that current recommended margins are inadequate, with only 86 % of melanoma in-situ's completely excised with 6 mm margins, whereas 9 mm margins remove 98.9 % of melanoma in-situ's. Kunishige JH. et al. Surgical margins for melanoma in situ. J Am Acad Dermatol. 2012;66(3):438–44

^cHigh-risk cutaneous SCC defined by the following: poor differentiation, perineural invasion, tumor diameter ≥2 cm, and invasion beyond subcutaneous fat. Jambusaria-Pahlajani A, et al. Evaluation of AJCC tumor staging for cutaneous squamous cell carcinoma and a proposed alternative tumor staging system. JAMA Dermatol. 2013;16:1–9

Table 2.7

Melanoma staging

Melanoma TNM classification		
T classification	Thickness	Ulceration status/mitoses
Tis	N/A	N/A
T1	≤ 1.0 mm	a: Without ulceration and mitosis < 1 mm ⁻²
		b: With ulceration or mitoses ≥ 1 mm ⁻²
T2	1.01–2.0 mm	a: Without ulceration
		b: With ulceration
T3	2.01–4.0 mm	a: Without ulceration
		b: With ulceration

(continued)

Table 2.7 (continued)

Melanoma TNM classification		
T4	>4.0 mm	a: Without ulceration
		b: With ulceration
N classification	Number of metastatic nodes	Nodal metastatic mass
N0	0	N/A
N1	1 node	a: Micrometastasis ^a
		b: Macrometastasis ^b
N2	2–3 nodes	a: Micrometastasis ^a
		b: Macrometastasis ^b
		c: In-transit met(s)/satellite(s) ^c without metastatic node(s)

(continued)

Table 2.7 (continued)

Melanoma TNM classification		
N3	4 or more metastatic nodes, matted nodes, or in-transit met(s)/satellite(s) ^c with metastatic node(s)	
M classification	Site	Serum lactate dehydrogenase
M0	No distant metastases	N/A
M1a	Distant skin, subcutaneous or nodal metastases	Normal
M1b	Lung metastases	Normal

(continued)

Table 2.7 (continued)

Melanoma TNM classification		
M1c	All other visceral metastases	Normal
	Any distant metastasis	Elevated

Melanoma TNM classification. For defining T1 melanomas Clark level of invasion is used as default criterion only if mitotic rate cannot be determined. Histologic evaluation of lymph nodes must include at least one immunohistochemical marker (e.g., HMB45, Melan-A/MART-1)
 Adapted from Balch CM, Gershenwald JE, Soong SJ, et al. Final version of 2009 AJCC melanoma staging and classification. J Clin Oncol. 2009;27: 6199–6206

NA not applicable

^aMicrometastases are diagnosed after sentinel or elective lymphadenectomy

^bMacrometastases are defined as clinically detectable nodal metastases confirmed by therapeutic lymphadenectomy or when nodal metastasis exhibits gross extracapsular extension

^cIn-transit metastases are >2 cm from the primary tumor but not beyond the regional lymph nodes, while satellite lesions are within 2 cm of the primary

Main Indications for Mohs Micrographic Surgery

- Non-melanoma skin cancer (BCC/SCC) in high-risk anatomic locations (periorbital, perinasal, periauricular, perioral, and hair-bearing scalp), or tissue sparing location (genitals, digits)
- Poorly defined tumors
- Recurrent tumors
- Aggressive histology (morpheaform, micronodular and infiltrating BCCs, SCC with poor differentiation, and infiltrative or spindle cell SCC)
- Perineural invasion
- Dermatofibrosarcoma protuberans, atypical fibroxanthoma, microcystic adnexal carcinoma, merkel cell carcinoma, extramammary paget's disease, and sebaceous carcinoma
- Tumors >2 cm in diameter
- Previous history of radiation treatment at site of malignancy
- Basal cell nevus syndrome, Xeroderma Pigmentosum
- Immunocompromised patients

Mohs Micrographic Surgery Procedure

- Disc excision of tumor with 1–2 mm margin with scalpel blade beveled at approximately 45° angle
- Tumor orientation is maintained and mapped
- Frozen sections prepared via sectioning in horizontal planes (vs. traditional breadloafing for permanent sections)
- Peripheral and deep margins examined by Mohs surgeon
- Process repeated until free margins obtained and closure vs. secondary intention healing

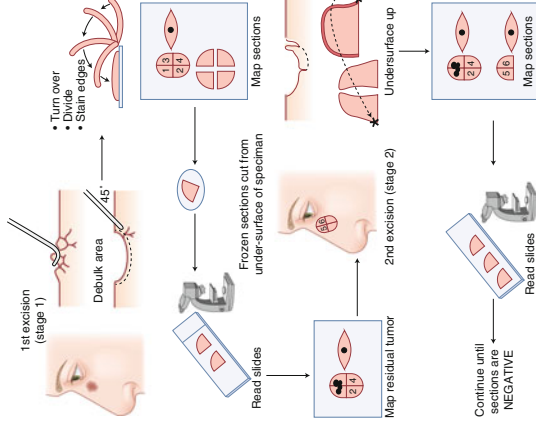


Figure 2.2 Mohs micrographic surgery. Source: Wolff K, Goldsmith LA, Katz SI, Gilchrist BA, Paller AS, Leffell DJ: *Fitzpatrick's Dermatology in General Medicine*, 7th Edition: <http://accessmedicine.com>.

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Elliptical Fusiform Excision

When/Where

Simple, basic excision, or an excisional biopsy performed on any part of the body.

How

The excision should have a length-to-width ratio of approximately 3:1 (Figure 2.3). Make the apical angles 30°. Such excisions should be placed parallel to relaxed skin tension lines whenever possible so that in time the scar will settle to resemble these preexisting lines.

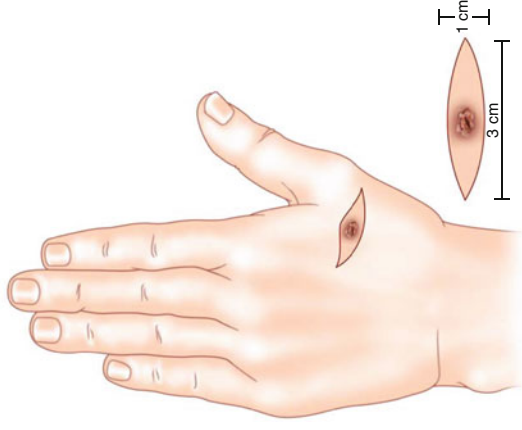


Figure 2.3 Elliptical fusiform excision

Placement of Incisions and Excisions on the Face

When/Where

Incisions and Excisions on the face.

How

Ideally, all incisions should be oriented within or parallel to “lines of expression.” Figure 2.4 shows suggested placement of excisions on the face based on common relaxed skin tension lines.



Figure 2.4 Placement of incisions and excisions on the face

Simple Interrupted Stitch

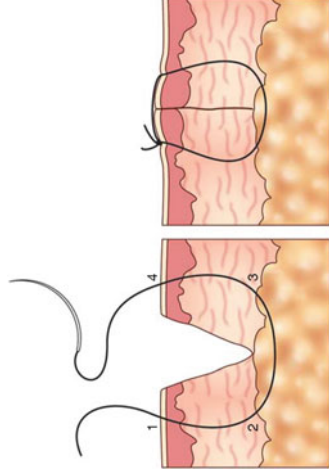


Figure 2.5 Simple interrupted stitch: the needle penetrates the epidermis (1) and is rotated slightly outward through the dermis and subcutaneous tissue in certain wounds (2). The needle then crosses the wound, looping a substantial portion of dermis and possibly subcutaneous tissue before being redirected upwards (3). The needle then exits the epidermis where the suture is then tied (4)

Buried Vertical Mattress Stitch

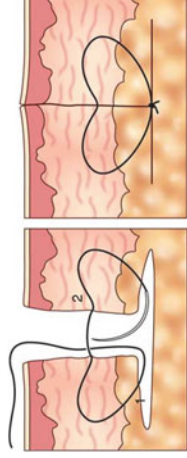


Figure 2.6 Buried vertical mattress stitch for deep dermal tissue approximation and eversion (1: place the curved needle in the subcutaneous tissue and make an arc upwards toward the superficial dermis, continuing the arc and exiting through the mid-dermis, then 2: this step is repeated on the opposite side entering through the mid-portion of the dermis, making an upward arc toward the upper reticular dermis, and continue the curve downward to exit the subcutaneous surface)

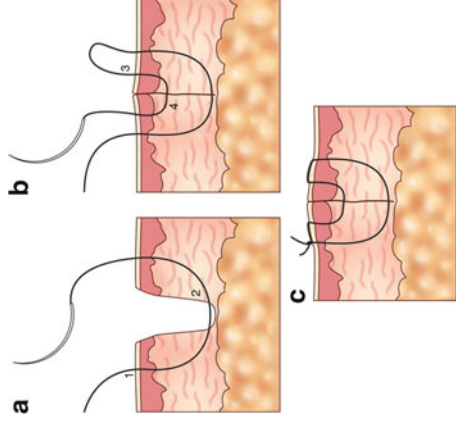
Cutaneous Vertical Mattress Stitch

Figure 2.7 Vertical mattress stitch: (a) the needle is placed 5–10 mm from the wound edge, and a simple interrupted suture is placed (1, 2). (b) The needle is redirected back across the wound more superficially (3), penetrating the skin edge 2–4 mm from the wound on both sides (4). (c) Final appearance of this suture after tying

Horizontal Mattress Stitch

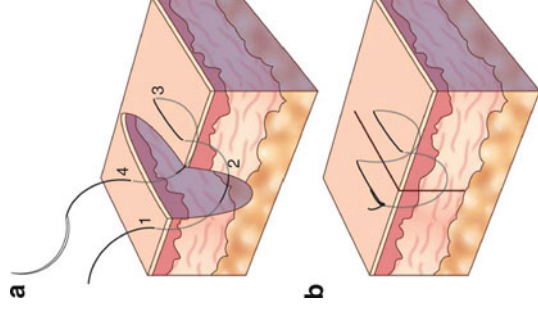


Figure 2.8 (a, b) Horizontal mattress stitch

Running Subcuticular Stitch

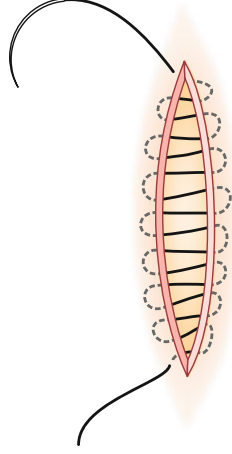


Figure 2.9 Running subcuticular/intradermal stitch: begin by either placing the needle from the external skin down into the epidermis and leaving the free end of the suture exposed (as with polypropylene) or by placing a buried vertical stitch at one end of the defect, cutting only the free suture tail. Then introduce the needle into the adjacent portion of the dermis of one side of the wound and advance the needle horizontally towards the other apex, exiting at the same plane. Then enter the needle into the dermis of the opposite side of the wound, just behind the point of needle exit.

Continue to advance the needle intradermally, alternating sides until eventually exiting through the epidermis at the other apex of the wound

Pulley Stitch

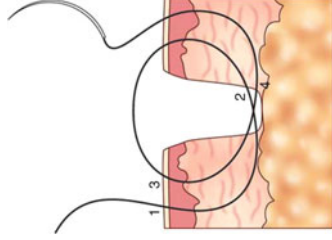


Figure 2.10 Pulley stitch (epidermal): for closure of wounds under tension.
Numbers indicate points of entry

Three Point Suture (aka Tip stitch)

When/Where

Where two cut surfaces come together that are not in a straight line. It is useful when suturing the tip of a pointed flap (this is known as a three-point suture, tip-stitch, or half-buried horizontal mattress).

How

The suture begins in the skin surface, penetrates to the level of the mid-dermis, emerges through the tip area, reenters the other side of the wound at the same mid-dermis level, and exits through the skin.

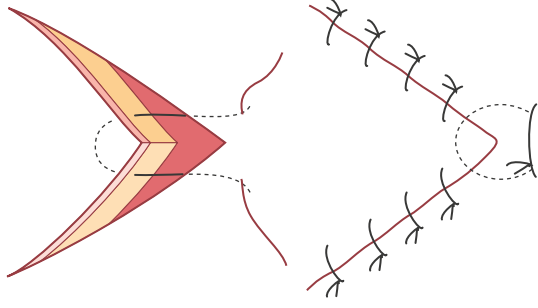


Figure 2.11 Three-point suture (AKA tip stitch)

“Dog Ear” Repair

When/Where

Where there is excess of bulging skin at some point of a wound closure, which usually results when closure involves inadequate length-to-width ratio or an elliptical excision with sides of unequal length.

How

The simplest method is to elongate the excision line, which gives a greater ratio to the length-diameter proportion. Another method utilizes a skin hook placed in the apex of the fold and pulled to one side. One side is incised with a scalpel. This piece of tissue is then pulled to the opposite side of the wound and also incised with a scalpel. Sutures are then placed accordingly.

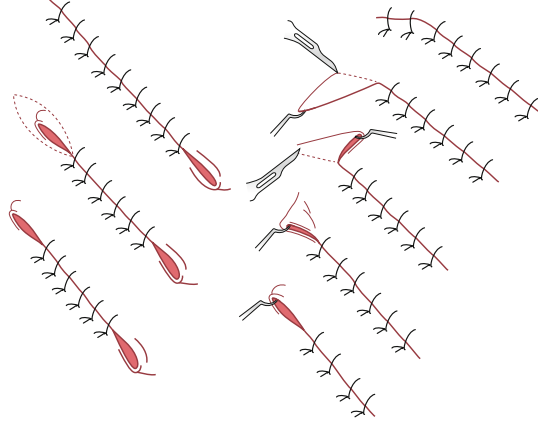


Figure 2.12 Repair of dog ears

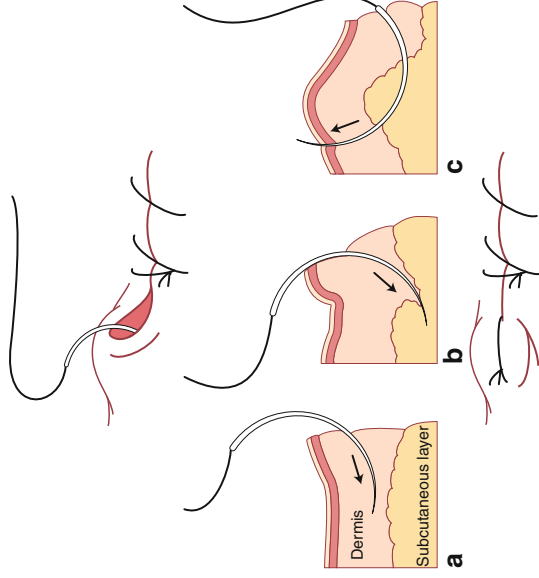
“Leashing” of Dog Ears**Figure 2.13** (continued)

Figure 2.13 “Leashing” the dog ear after completely closing a wound with cutaneous sutures, a needle is inserted into the end of the suture line in the intradermal plane and in the direction of the “dog ear” (*top panel*, and **a**). The needle is advanced intradermally for approximately one third of the length of the needle parallel to the epidermis (*middle panel*, **a**). The needle is then directed downward until it penetrates the subcutaneous tissue (*middle panel*, **b**). The needle is then advanced a few millimeters forward in the superficial subcutaneous plane and is then directed upward through the dermis and epidermis (*middle panel*, **c**). The suture is then tied thereby “leashing” the “dog ear” by pulling it level with the suture line

Table 2.8 Absorbable sutures

Suture	Origin	Filament	Absorption	Reactivity	Tensile strength	Degradation
Plain gut	Animal collagen	Twisted	60–70 days	High	Poor	Proteolysis
Chromic gut	Animal collagen	Twisted	80 days	Moderate	Poor	Proteolysis
Vicryl (polyglactin 910)	Copolymer	Braided	80 days	Low	Good	Hydrolysis
Dexon (polyglycolic acid)	Homopolymer of glycolic acid	Braided	90 days	Low	Good	Hydrolysis

(continued)

Table 2.8 (continued)

Suture	Origin	Filament	Absorption	Reactivity	Tensile strength	Degradation
PDS (polydioxanone)	Polyester polymer	Monofilament	180 days	Low	Greatest	Hydrolysis
Maxon (glycolic acid, polyglyconate)	Glycolic acid Trimethylene carbonate	Monofilament	180 days	Low	Great	Hydrolysis
Monocryl (polyglactaprone-25)	Copolymer of glycolide and epsilon-caprolactone	Monofilament	91–119 days	Low	Great	Hydrolysis

Table 2.9 Nonabsorbable sutures

Suture	Origin	Filament	Reactivity	Tensile strength	Uses
Silk	Silk	Braided or twisted	High	None at 1 year	Mucosal surfaces
Ethilon	Nylon	Monofilament	Low	High	Cutaneous, vessels
Dermalon	Nylon	Monofilament	Low	High	Cutaneous, vessels
Prolene	Polypropylene	Monofilament	Least	High	Running subcuticular (intradermal)
Mersilene	Polyester	Braided	Low	High	Cutaneous, knots well, cutaneous

Table 2.10 Topical antimicrobial agents

Name	Components	Spectrum	Comments
Gentamycin		Gram–	Resistance
Neomycin		Gram–	No pseudomonas, yes proteus
Polymixin B		Gram–	Yes pseudomonas, no proteus
Bacitracin		Staph, strep	Risk of anaphylaxis (open wounds), allergic contact dermatitis
Neosporin	Neomycin/Bacitracin/Polymixin B	Broad	Risk of sensitization, co-sensitivity between neomycin and bacitracin (allergic contact dermatitis)
Polysporin	Bacitracin/Polymixin B	Broad	Risk of sensitization, allergic contact dermatitis

(continued)

Table 2.10 (continued)

Name	Components	Spectrum	Comments
Bactroban	Mupirocin	Gram+	Kills b-lactamase + organisms
Silvadene	Silver sulfadiazine	Broad including yeast	Caution: sulfonamide hypersensitivity or G6PD deficiency
Dakin's	Sodium hypochlorite (bleach)		Not recommended for open wounds due to cytotoxicity
Vinegar	Acetic acid	Pseudomonas	

Table 2.11 Wound dressing

Type	Brand name	Characteristics	Purpose	Indications
Polyurethane films	Op-site, Tegaderm, Bioocclusive	Transparent thin semipermeable sheet	Allows air exchange but not fluid loss; promotes re-epithelialization; No absorption of wound drainage	Lacerations, abrasions
Hydrocolloids	Duoderm, Comfeel	Opaque sheet	Debrides wounds, stimulates granulation tissue of open wounds, and absorbs wound drainage	Chronic wound, protects injured surface, and moist or dry wound
Hydrogel	Vigilon, Nu-gel	Semitransparent gel	Absorbs wound drainage	Moist wound
Polyurethane foams	Synthoderm, Epiloch	Opaque, sponge-like	Compresses wound, no absorption of wound drainage	Compresses chronic leg wounds
Interface protector	Telfa pad, Vaseline gauze	Sheet or pad	Covers without improving healing	Covers without sticking

Table 2.12 Surgical complications

Complication	Risk factors	Prevention and management
Bleeding and hematoma formation	Anticoagulant medications, hereditary bleeding disorders, larger procedures (flaps), and removal of space occupying lesions	Stop unnecessary anticoagulant medications (see recommendations section); adequate intraoperative hemostasis; and adequate pressure dressing Evacuate hematoma (remove sutures)
Damage to nerves or vital organs	Surgery in a high-risk location	Careful attention to local tissue anatomy (see Figure X Facial N diagram)
Anesthetic side effects	Cardiovascular disease	Limit total dose of anesthetics and epinephrine, avoid intravascular injection

(continued)

Table 2.12 (continued)

Complication	Risk factors	Prevention and management
Electrosurgery complications	Pacemakers and defibrillators	Place grounding plate away from the ICD with bipolar devices Consult a cardiologist for defibrillators. Use short bursts to minimize electromagnetic interference
Contact dermatitis	Bacitracin, neomycin irritation from dressings	Identify and discontinue the offending agent
Infection	Diabetes, immunocompromised patients, prolonged procedures, breach of oral mucosa, surgery below the knee, TNF-inhibitors (or other immunosuppressant therapy), and surgery on inflamed skin	Sterile technique, antibiotics, wound culture, and wound care

(continued)

Section B

Excisional and Non-excisional Surgery

Table 2.12 (continued)

Complication	Risk factors	Prevention and management
Chondritis	Surgery of the ear	NSAIDs, warm compresses
Wound dehiscence	High tension, heavy lifting, and hematomas	Allow secondary intention healing or resuture and prescribe antibiotics
Skin necrosis	Excessive tension, inadequate arterial supply	Wound care to allow secondary intention healing
Suture spitting	Long-lasting subcuticular sutures or superficial placement	Removal of spitting sutures
Suture track marks	Delayed removal of sutures, excessive tension	Timely removal of cuticular sutures; utilize running subcuticular sutures when possible

(continued)

Table 2.12 (continued)

Complication	Risk factors	Prevention and management
Excessive granulation tissue	Secondary intention healing	Silver nitrate sticks, PDL
	Oral retinoid use	Topical and intralesional corticosteroids
Hyperpigmented scars	Dark-skinned patients, post-operative sun exposure	Topical hydroquinone, corticosteroids, retinoids, and pigment lasers
Hypopigmented scars	Dark-skinned patients	308-nm excimer laser, fractional ablation
Hypertrophic scars and keloids	Personal or family history of keloids; upper trunk location, excessive postoperative exertion or tension	Timely suture removal Intralesional corticosteroids, 5-FU, lasers, and topical silicone

Table 2.13 Suture removal timetable

Site	Number of days
Face	4–7
Neck	7–10
Scalp	7–14
Thorax, arms	7–14
Legs, feet	14–21

Commonly Used Surgical Instruments in Dermatologic Surgery

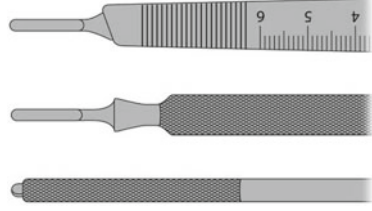


Figure 2.14 Scalpel handles: (*left to right*) the Beaver round knurled handle, the Bard-Parker round knurled #3 handle, and the Bard-Parker #3 standard handle

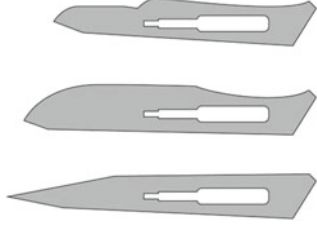


Figure 2.15 Scalpel blades: the Bard-Parker #15 (*right*), #10 (*middle*), and #11 (*left*)



Figure 2.16 Curettes: large (*left*) and small (*right*) variants with oval heads

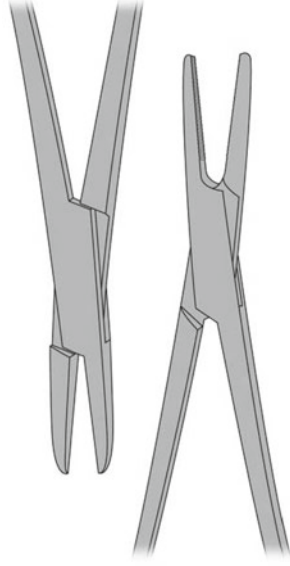


Figure 2.17 Needle holders: smooth (*top*) and fine-toothed (*bottom*) variants

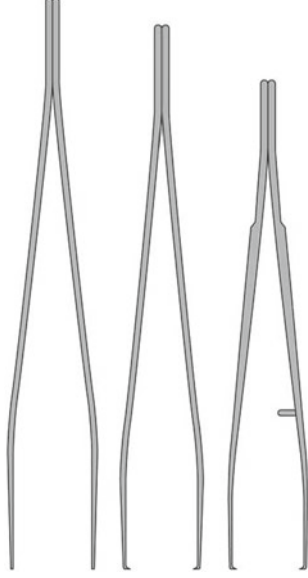


Figure 2.18 Adson Forceps: (*top to bottom*) heavy, smooth, straight forceps, heavy 1 × 2 toothed straight forceps, and delicate 1 × 2 toothed straight forceps



Figure 2.19 Bishop Harmon forceps

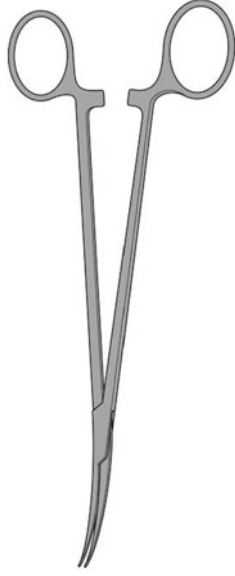


Figure 2.20 Jacobson hemostat forceps

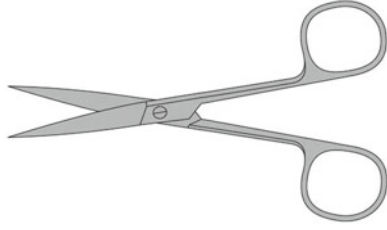


Figure 2.21 Scissors: general operating scissors for suture cutting



Figure 2.22 Curved metzenbaum scissor

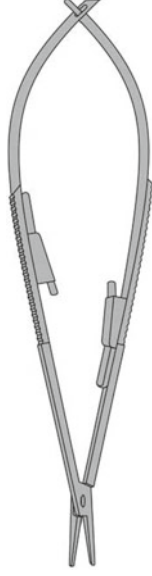


Figure 2.23 Castroviejo needle driver

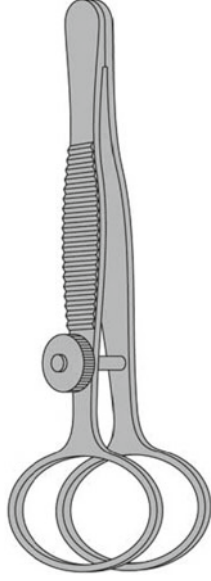


Figure 2.24 Chalazion clamp



Figure 2.25 Skin hook

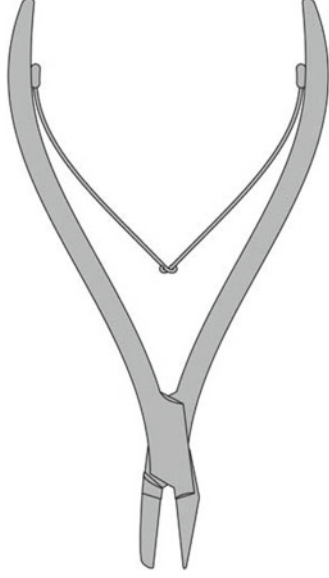


Figure 2.26 English nail splitter



Figure 2.27 Nail elevator

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