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Minor Surgery in Primary Care

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Abstract

Minor surgical procedures are defined as a set of procedures in which short surgical techniques are applied on superficial tissues, usually with local anesthesia, and minimal complications, that usually do not require postoperative resuscitation and need minimal equipment, many of which are used on a daily basis, and can be easily and safely performed in a short amount of time during clinic visit. General practitioners should have an optimal infrastructure and medical furniture in a minor surgery operating room. It is important to manage the instruments and materials involved for basic and advanced surgery. Also, for a good clinical practice in minor surgery, it is necessary that general practitioners handle anesthesia techniques (local anesthetic infiltration and regional blocks) and have knowledge of the body areas of risk in minor surgery and the topographic anatomy of the skin for the right performance of surgical procedure. The patients should be informed about the procedure and its technical details before asking them to sign the informed consent form.

Keywords: ambulatory surgical procedures, sutures, minor surgical procedures, electrocoagulation, anesthetics, local, lipoma, keratosis, actinic

1. Introduction

This chapter will try and help general practitioners master minor surgical procedures.

General practitioners require these procedures for diagnostic or therapeutical reasons, in the outpatient setting as well in the emergency (excision of skin lesions or wound suturing for example). For that reason, the training of the general doctors in minor surgery is an additional tool for good medical practice and acquiring skills in minor surgical procedures has become a critical part of medical training.

Minor surgical procedures do not involve very sophisticated devices. However, some basic requirements in terms of infrastructure and equipment must be met [1, 2].

It is recommended that each facility has a specific room for these procedures. This room (**Figure 1**) must include:

Surgical room: a well-ventilated room, with a suitable temperature, it is imperative that is clean, but it does not require sterile isolation. The surgical room should be cleaned properly at the end of the surgical session, particularly after contaminated procedures (e.g. abscesses).

Operating table: It should be easily accessible from all sides, Height-adjustable and articulated tables. It is essential that allows the doctor to work in comfort, both standing and sitting.



Figure 1.
Well-equipped room of minor surgery.

Doctor's stool: A height-adjustable stool on wheels.

Side table: it is used to place the surgical instruments and material used during the surgery.

Lamp: It is necessary to have a directional light source, and it must provide adequate lighting with, at least, 45,000 lux of illuminance. It is advisable to have another auxiliary lamp with a magnifying glass.

Showcase and containers: For storing consumables and surgical instruments. There should also be properly marked containers for bio contaminated material, and a disposal system in accordance with current health legislation.

Resuscitation equipment: Including material for vascular access, airway intubation, saline, drugs for resuscitation (e.g. epinephrine, atropine, bicarbonate) and a defibrillator.

2. Sterilization system

2.1 Physician's preparation for minor surgery

Performing minor surgical procedures carries some risk of transmission of infectious diseases (such as HCV and HIV), both from patient to doctor and vice versa. To minimize this risk, all physicians performing invasive procedures should adopt and apply universal precautions, which include:

Surgical attire: surgical shirts and trousers ("scrubs") or gowns and sterile gloves. Surgical masks and eye goggles is considered highly desirable but not essential. Disposable gowns are very useful.

Hand washing: Hygienic scrubbing is suitable for minor surgery and involves using a normal soap solution (no brush) and washing thoroughly all skin folds for at least 20 seconds. Time span from scrubbing to glove placement should never exceed 10 minutes.

Sterile glove placement: Outer surface of the glove should be sterile, therefore they cannot be touched with the hands, only with the other glove; nonetheless, the inner or powdered part of the glove can be touched.

3. Surgical instruments (handling) and suture material

3.1 Surgical instruments for minor surgery

The quality, condition and type of instruments used in any procedure can affect its outcome. Choosing the right instruments for each surgical intervention is, therefore, an important issue [1].

Scalpel: A number 3 handle with leaves number 15 for dissection and 11 for incisions and withdrawal of points. The scalpel blade is installed on the handle in a unique position, matching the blade guide with the handle guide. The scalpel is handled with the dominant hand like a pencil (**Figure 2**), allowing small and precise incisions. To increase precision, hand should be partially supported on the working surface. Skin should be tightened perpendicularly to the direction of the incision using the contralateral hand, cutting the skin perpendicularly. In hairy areas (eyebrows or scalp), to avoid damaging the follicles, the incision should be parallel to the hairshafts.

Scissors: The scissors allows us both the cutting dissection of the tissues and the blunt dissection.

A 14 cm long curved blunt May scissors (cutting scissors) and an 11.5 cm curved blunt Metzenbaum scissors (dissecting scissors) should be available.

Scissors are handled by inserting the distal phalange of the thumb and fourth finger into the rings, then supporting the second finger on the branches of the scissors. Usually scissors are inserted with the tip closed and are then opened, separating the tissues in the anatomical layers, except for sharp dissection they are inserted with the tip open, then cutting the tissue.

Needle-holder: needle-holders are meant to hold curved needles while stitching. The needle is held 2/3 of the way back from its point. A small or medium (12–15 cm). Long needle holders are not recommended.

Like other instruments with rings, the needle support is handled equally. To facilitate the passage of the needle through the tissues, the needle holder should describe a prono-supination movement, and for a proper edge eversion of the wound the angle of entry of the needle should be 90°. The non-dominant hand holds the skin with a retractor or dissecting forceps, opposing the pressure of the needle.

Dissecting forceps: Use of a 12 cm-long Adson forceps with teeth to handle the skin, plus a toothless Adson forceps for suture removal or two standard forceps, one with and one without teeth. It is important not to manipulate the skin using non-toothed forceps.

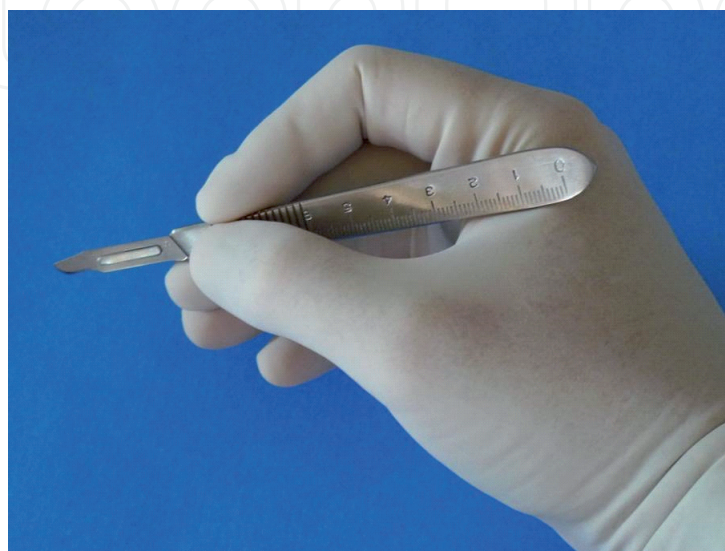


Figure 2.
Correct way of managing of the scalpel.



Figure 3.

Basic set of instruments of minor surgery: Scalpel (handle of the number 3 for scalpel number 15), scissors of May, Adson forceps with teeth, needle-holders and mosquito forceps.

They used with the non dominant hand, between the first, second and third fingers. They allow the surgeon to expose the tissues to manipulate them.

Homeostats: homeostats are used to pull tissue, for homeostasis and, in some cases, for blunt dissection in absence of small scissors. Usually with 12 cm curved non-toothed Mosquito forceps.

For most minor surgical interventions, a basic set of surgical instruments is enough (**Figure 3**). But some surgical procedures require the use of special instruments or equipment, such as:

Biopsy punch: it is an instrument consisting of a handle and a cylindrical cutting edge (trephine) for obtaining tissue biopsies. It allows the surgeon to obtain full-thickness samples of the skin.

The most useful in minor surgery is the 4 mm punch but they are manufactured in different diameters. They are handled with the dominant hand, performing rotational movements of the instrument to cut the skin and obtain the sample [3].

Curette: it allows scraping of lesions on the skin Surface with a simple surgical technique that involves “scraping” or enucleating different types of superficial, hyperkeratotic or raised partial-thickness skin lesions.

Cryosurgical equipment: these are devices that spray a cryogen, which is usually liquid nitrogen that uses extremely cold temperatures to treat benign and malignant skin lesions (solar lentigines, common warts, myxoid cysts, actinic keratosis, etc.).

It is available, cost-effective, and rapid treatment that rarely requires anesthesia [4].

Electrocautery: it applies an electric current with ability to coagulate and cut through different tissues. There are different terminals depending on the type of procedure that is to be performed [5].

3.2 Suture materials

Different types of suture materials are available: threads, staples, adhesive sutures and tissue adhesives.

Depending on the material used for the suture, the operation time will be modified and will require anesthesia or not.

Conventional sutures require the use of anesthesia, operating time is increased, and tissue is traumatized, but provide a secure wound closure and minimal wound-dehiscence rate compared to other types of closure [6].

3.2.1 Sutures

They are classified according to their origin (natural, such as silk, or synthetic polymers that produce less tissue reaction), their configuration (monofilament or

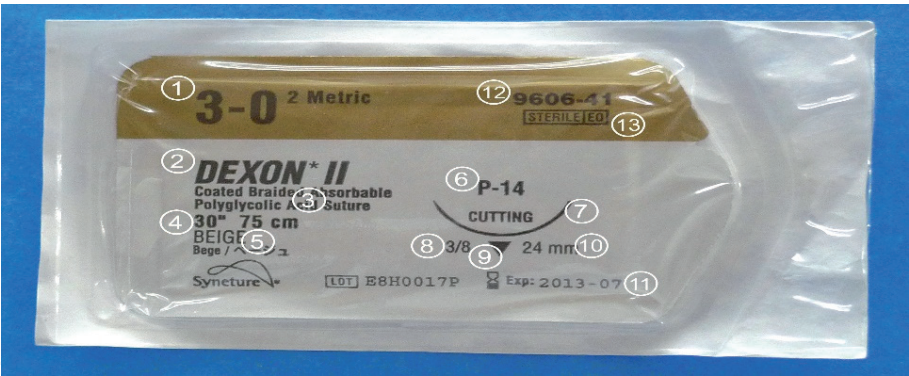


Figure 4. Information on suture: (1) caliber of the thread (system USP and metric), (2) trade name of the suture, (3) composition and physical structure of the thread, (4) length of the thread, (5) color of the thread, (6) model of needle (every manufacturer uses different references), (7) I draw from the needle to scale 1:1, (8) circumference of the needle (expressed in parts of circle), (9) section of the needle, (10) length of the needle, (11) expiry date, (12) indexes of the manufacturer, (13) indicator of sterile packing.

multifilament), and their size (the thickness of the suture is measured using a zero-scale [USP system] (**Figure 4**). The most commonly used in minor surgery range from 2/0 to 4/0 or 5/0.

The size and type of suture will be selected depending on the anatomical site, the type of wound and on the patient's features.

3.2.1.1 Features of main sutures

- *Nonabsorbable sutures:* They are not degraded by the body and they are used for skin wounds in which stitches that are to be removed or for internal structures that must maintain a constant tension (like tendons and ligaments), Polypropylene and Nylon, causes minimal tissue reaction.
 1. Silk: Suitable for skin suture and for removable sutures in general, it is easy to handle and tie.
 2. Nylon: Indicated for precise skin sutures and internal structures that must maintain constant tension.
 3. Polypropylene: Indicated in continuous intradermal skin closure. It is a very soft suture with high package memory and, therefore, it requires more knots for secure tying, and it is more expensive than Nylon.
- *Absorbable sutures:* A suture is considered absorbable if, when placed under the skin surface, it loses most of its tensile strength in 60 days. It has low tissue reactivity, high tensile strength. They are use in dermal suturing, subcutaneous tissue, deep suturing and ligatures of small vessels. The most commonly used, are the synthetic sutures (polyglactin 910 [Vicryl], polyglycolic acid [Dexon]...).

3.2.1.2 Stitch removal

The period of time (in days) recommended for the extraction of points, together with an indication of the type of suture is described in **Table 1**.

3.2.2 Suturing needles

Needle selection depends on the type of tissue to be sutured, its accessibility and suture thickness.

Anatomical region	Skin suturing	Subcutaneous suturing (Vicryl® or Dexon®)	Stitch removal	
			Adults	children
Scalp	Staples 2/0 silk	3/0	7–9	6–8
Eyelids	6/0 monofilament or silk	—	3–5	3–5
Ears	4/0–5/0 monofilament or silk	—	4–5	3–5
Face, neck, nose, forehead	4/0 monofilament or silk	4/0	4–6	3–5
Lips	4/0 monofilament or silk	4/0	4–6	4–5
Trunk/abdomen	3/0–4/0 monofilament	3/0	7–12	7–9
Back			12–14	14
Lower extremity	3/0 monofilament	3/0	8–12	7–10
Penis	4/0 monofilament	3/0	7–10	6–8
Foot and pulp of fingers			10–12	8–10
Upper limb/hand			8–10	7–9
Mouth and tongue	3/0 Vicryl®	—	—	—

Table 1.
Indications of types of sutures and time for stitch removal.

Needles are classified as triangular, spatulate or conical, according to their section. Triangular needles are considered the first choice in minor surgery, as they have sharp edges that allow suturing through highly-resistant tissues such as subcutaneous tissue, skin or fascia.

Curved needles are used with the needle holder, that is designed to hold needles atraumatically and safely. Short needle holders are preferred in minor surgery; however, they should be selected in accordance with the size of the needle and the surgical area.

3.2.3 Staples

Staples are applied by disposable staplers and they are available in different widths (R: normal staples, W: Wide staples). Staplers are preloaded with a variable number of staples. It has certain advantages such as the speed with which the suture is performed, low resistance and no tissue reaction.

They are applied with the dominant hand, while the non dominant hand everts the skin edges using dissecting forceps with teeth. Staple removal is performed using a staple extractor.

Indications: In linear wounds on the scalp, trunk and limbs, and for temporary closure of wounds in patients to be transferred or with other serious injuries.

Contraindications: Wounds on face and hands and regions that are going to be studied through CT or MRI.

3.2.4 Adhesive sutures

It consists of adhesive tapes made of porous paper and capable of approximating the edges of a wound or incision. They are available in various widths and lengths, and it can be cut.

Indications: linear and superficial wounds with little tension. The regions where they are used most are: the face, chest, non-articular surfaces of the limbs

and fingertips. They are also a good choice for elderly patients and to wound-reinforcement after stitch removal.

Any wound closed with adhesive suture should not be wet for the first few days, due to the risk of tape detachment.

Contraindications: irregular wounds, on the scalp and hairy areas, skin folds and joint surfaces.

Application and removal of adhesive sutures: For a good application the wound should be free of blood or secretions and dry. The suture tape is applied to the wound using dissecting forceps without teeth or fingers, first on one edge of the wound and then the other and along the wound.

Time for adhesive suture removal parallels time for conventional suture.

3.2.5 Tissue adhesives (glues)

These products (cyanoacrylates) act as an adhesive, producing an epidermal plane closure, so they bind the most superficial epithelial layer (stratum corneum) and hold together the wound edges for 7–14 days. After this time, adhesive and stratum corneum are shed along.

Adhesive can be used in deeper wounds or with great tension, associated at sutures in the subcutaneous plane.

It has advantages when compared with sutures: More rapid repair time, less painful procedure, better acceptance by patients, no need for suture removal or follow-up, good cosmetic results. Finally they are safer than sutures because needlesticks are avoided [1, 7].

3.2.5.1 Application technique

After cleanliness and hemostasis of the wound, tissue adhesive will be applied:

- Using fingers or dissecting forceps to approximate the wound edges, apply the adhesive on the outer surface of the skin. Then keep the edges in contact for 30–60 seconds. The process can be repeated 3 times.
- The wound does not require dressings but should be kept dry 5 days. The glue will disappear after 7–10 days.

3.2.5.2 Warnings for correct use

If adhesive contact the eyes, use of a generous amount of ophthalmic antibiotic ointment should be placed within the eye and on the eyelid to break down the adhesive and reopening of eyelids with a gentle manual traction. If adhesive reach the cornea, it should be assessed for corneal abrasion.

4. Surgical procedures and techniques of anesthesia in minor surgery

4.1 Basic surgical maneuvers

The practice of any surgical procedure, however minimal, is not without risks. The possibility of complications during and after surgery must always be kept in mind. The results of surgical treatment are not always predictable, and depend on many factors, involving not only the physician's skills, but also the patient.

4.1.1 Surgical incision and dissection

There are two ways to dissect tissue: with a blunt dissection, separating the tissue, using Metzenbaum scissors or mosquito forceps, or cutting dissection, with a scalpel or scissors.

4.1.1.1 Incisions shape in minor surgery

Incisions must parallel the minimal tension lines, which match skin relaxation lines and facial expression. Thus, they result in an acceptable scar, both functionally and cosmetically. There are diagrams of the relaxed skin tension lines, for correct incision planning before surgery.

The incision can be marked prior to skin antiseptic preparation or a previously sterilized marking pen can be used in the surgical field after skin preparation and draping.

For excisional biopsies, it is necessary to leave an adequate margin (1–2 mm) of healthy skin both around the lesion and in depth, depending on each lesion.

4.1.1.2 Types of incisions for minor surgery

Incision: Used for drainage of abscesses or surgical exposure of deeper tissues (e.g., epidermal cysts, lipomas, lymph node biopsies). Depending of surgery or the anatomic area, Incisions can be angled, curved or straight.

Elliptical excision: Its should be oriented along the lines of minimal tension.

Usually the length of the ellipse should be 3 times its width and the ends form a 30° angle. Its used to remove skin lesions with a margin of healthy skin in depth and around lesion, and include all skin layers plus some subcutaneous fat (**Figure 5**). This technique allows diagnosis, treatment and facilitates closure producing good cosmetic results.

It is the ideal technique to remove the majority of skin lesions [8–10].

The procedure involves the following steps:

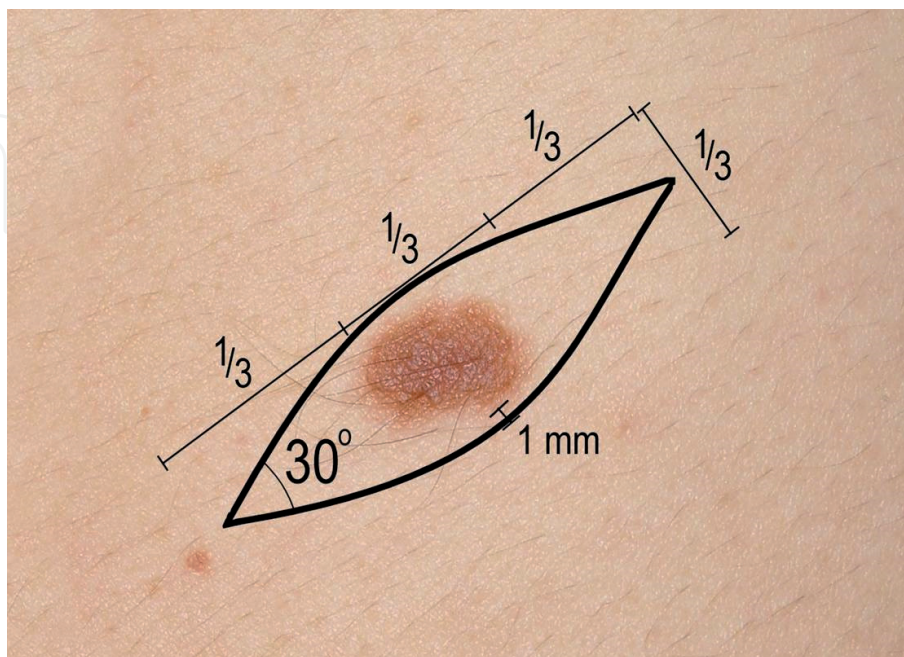


Figure 5.
Characteristics of the elliptical excision.

1. Design of the incision
2. Preparation of the surgical field
3. Local anesthetic injection.
4. Superficial skin incision along the marked ellipse, going through the entire dermis to prevent jagged edges.
5. Using the nondominant hand the deep wedge-shaped incision is made (always under direct vision), until fat is reached and the lesion is, thus, removed en bloc.
6. Hemostasis of the surgical area.
7. Wound closure by layers
8. Cleaning the surgical area and dressing placement
9. After 48 hours the wound can be washed gently

Tangential excision: it is the technique of choice to remove very superficial lesions using scalpel or scissors, eliminating only the most superficial layers of the skin and for which diagnosis is certain. The defect created is allowed to heal by secondary intention. Tangential excision also called “skin shave”.

No surgical procedure is complete until the pathology report has been received and the patient informed of the results and prognosis.

4.1.2 Hemostasis

Most episodes of bleeding in minor surgery can be controlled with pressure with a gauze or a surgical towel. It is recommended to apply a compressive bandage on the wound in the immediate postoperative period to reduce hematoma or seroma.

4.1.2.1 Types of hemostasis

Tourniquet: Its allows the exploration of the wound and reduces the surgical time. Its use is limited to distal areas (the fingers nail surgery, etc.) and should not exceed 15 minutes.

- *The hemostats:* The surgeon holds bleeding vessel with the tip of a hemostat without teeth and controls the bleeding. To avoid damaging important structures (for example, tendons or nerves) it is necessary to identify the bleeding vessel.
- *The ligatures:* they are threads that tied around a blood vessel, occlude their light and prevent bleeding. After that, vessel should be fixed with a hemostat. The ligature should pass under the clamp and several knots must be tied.
- In the hemostasis by electrocoagulation, the Bovie is used in coagulation mode.

4.1.3 Suture techniques

4.1.3.1 Interrupted sutures

This is the most appropriate for minor surgery, as it helps to distribute stress, and promotes the drainage of the wound. The number of sutures needed varies according to the length, shape and location of the laceration. In general, the sutures are placed away from each other so that no space appears on the edges of the wound.

Simple stitch (percutaneous): It is used alone or in combination with buried stitches in deeper wounds and it is considered the technique of choice.

Simple stitch with buried knot: Used to reduce tension within the wound and approximate the deep planes, before skin suturing. Absorbable material is used, the knot leaving in the depth of the wound, and is cut flush.

Mattress stitch or “U” stitch: It is useful in areas of loose skin (e.g., elbow, back of the hand), where the wound edges tend to invaginate. In addition this suture provides good obliteration of dead space, avoiding the need for buried sutures in shallow wounds.

- Horizontal mattress stitch: provides a good eversion of wound edges, especially in areas where the dermis is thick or with high tension [6]
- Half-buried horizontal mattress stitch: is used to suture wound angles or surgical edges of uneven thickness.

4.1.3.2 Running sutures

They are contraindicated if an infection is suspected and in very contaminated wounds.

Simple running suture: is a sequence of points with an initial knot and a final knot. It takes a short time to do it, but it makes it difficult to adjust the tension of the skin. It is rarely used in minor surgery.

Continuous intradermal suture (subcuticular): this type of suture allows the wound to be sutured without breaking the skin, avoids the “cross-hatching” and provides an optimal esthetic result. Non-absorbable monofilament suture material or absorbable material can be used. Intradermal sutures are used in wounds where it will be necessary to maintain the suture for more than 15 days. In minor surgery its usefulness is limited.

4.1.3.3 Knot-tying

When a multifilament yarn is knotted (for example, Silk), three loops are usually sufficient (first a double loop plus two simple loops). When knotting a monofilament yarn (e.g., Nylon, polypropylene), an additional loop must be added to increase knot security. The knots should be placed on one side of the wound, rather than placed on top of the incision. This will allow a better visualization of the wound and will interfere less with the healing and facilitate the removal of points.

4.2 Local anesthesia in minor surgery

Local anesthetics block the transmission of nerve impulses and they causing, the absence of sensation in a specific part of the body, also other local senses may be affected.

Local anesthetics can be classified into two groups: esters and amides (lidocaine, mepivacaine, bupivacaine, prilocaine, etidocaine and ropivacaine). For their remarkable safety and efficacy we will only use amides. The association of vasoconstrictors allows better visualization of the surgical field. The most widely used is adrenaline and the maximum dose must not exceed 250 micrograms in adults or 10 micrograms/kg in children [11].

4.2.1 Available presentations

The concentration of the anesthetic is expressed in %. We must know that a concentration of 1% means that 100 ml of the solution contain 1 g of anesthetic. Therefore a 2 ml ampoule of 2% mepivacaine, its contain 40 mg (**Table 2**).

4.2.2 Use of vasoconstrictors

Due to the risk of necrosis and other alteration like delayed healing, adrenaline should not be used in acral areas (e.g., toes), or in traumatized and devitalized skin.

4.2.3 Basic techniques of local anesthesia

4.2.3.1 Topical anesthesia

It is use in an intact skin and for lacerations and mucosae, especially in children. And their characteristics are shown in the **Table 2**.

4.2.3.2 Infiltration anesthesia

- 1. *Angular infiltration*: From the point of entry, the anesthetic is infiltrated in three or more different directions, like a fan (**Figure 6**).
- 2. *Perilesional infiltration*: Starting from each point of entry the anesthetic is infiltrated in a single direction. The different points of entry will be forming a polyhedral figure.

Anesthetic	Mode of use	characteristics	Indications	Complications	Not indicated
LET® (4% lidocaine, 0.1% epinephrine 1:2000, 0.5% tetracaine)	1–3 ml applied directly on wound for 15–30 minutes	Onset 20–30 minutes after application.	Can be effective in children for face and scalp lacerations and less effective in limbs	No important adverse effects reported	For mucosae and acral areas
EMLA® lidocaine 25 mg/ml plus prilocaine 25 mg/ml,	1–2 g of cream should be applied for each 10 cm ² of intact skin and occluded. Maximum dose is 10 g	Onset 60–120 minutes after application. Duration of effect is 30–120 minutes. Not useful on palms of hands and soles of feet	Admitted for procedures on intact skin: scraping and shaving, cryosurgery, electrosurgery, laser hair removal, pre-anesthesia for infiltration	Local mild irritation, contact dermatitis. There have been reports of Methemoglobinemia in children aged <6 months	For wounds or deep tissues

Table 2.
Topical anesthetics used in minor surgical procedures and their characteristics.

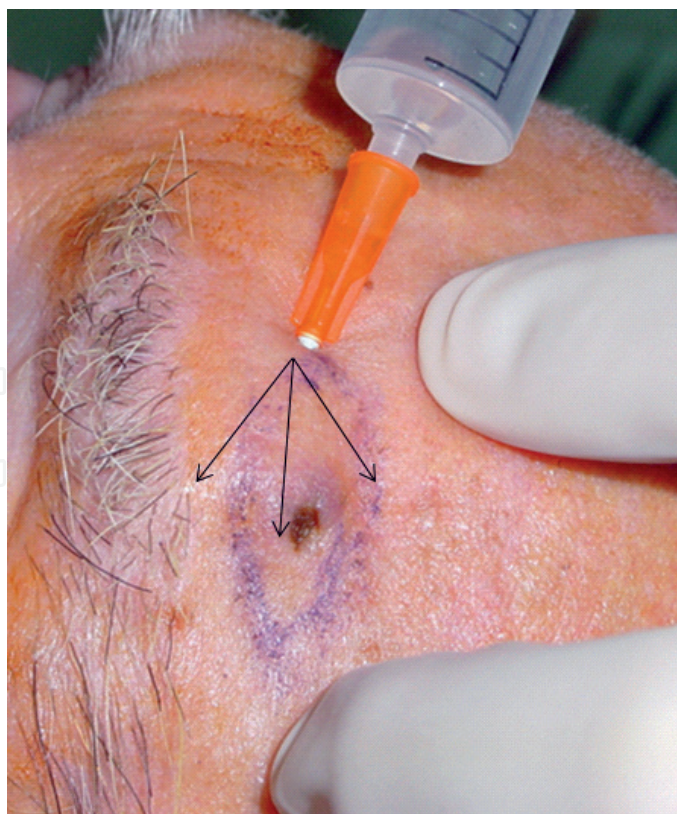


Figure 6.

Anesthetic angular infiltration: it infiltrates following three or more different directions, like a fan.

3. *Linear infiltration:* If the lesion to be operated on is a skin laceration, the anesthetic should be directly infiltrated into the wound edges in a linear fashion. If the wound is bruised and has irregular edges, it is preferable to use a perilesional technique from the uninjured area, and follow along the margins of the wound to avoid introducing microbial contamination.

4.2.3.3 Loco-regional block

The needle is inserted at the base of the proximal phalanx in a dorsal and lateral location, in the collateral palmar digital nerve, and then local anesthetic is injected (maximum 4 ml). The needle is removed and after aspiration proceeds to infiltrate again the subcutaneous plane.

The surgeon must wait 10–15 minutes to obtain a complete effect of the blockage.

5. Preoperative considerations

5.1 Diagnostic criteria for the most common lesions in minor surgery

It is important that general practitioners have an extensive knowledge of the lesions most frequently treated by minor surgery [12].

The following paragraphs contain an overview of the most important diagnostic consideration in lesions usually treated with minor surgery.

5.1.1 Seborrheic keratoses

These lesions are easily treated with curettage, electrosurgery or cryosurgery. In case of doubt, an incisional biopsy should be sent for histopathological analysis.

5.1.2 Epidermal cysts

They are also known as epithelial cysts, epidermoid cysts, or improperly, “sebaceous cysts.” The cyst wall consists of normal stratified squamous epithelium derived from the follicular infundibulum. Keratin is the main component inside the cyst. Their treatment is surgical removal for cosmetic reasons or due to recurrent infections.

5.1.3 Warts

They are a form of benign epithelial hyperplasia induced by the human papillomavirus (HPV). Clinical presentations of cutaneous HPV infection include: Verruca Vulgaris or plantar wart: you can use liquid nitrogen or salicylic acid.

5.1.4 Molluscum

It presents as pearly white papules of 1–5 mm (sometimes even bigger) with central dimpling. They may appear isolated or in groups in the neck, trunk, anogenital area or eyelids. Their first choice treatment is cryosurgery, curettage.

5.1.5 Lipoma

Lipomas are slow-growing benign tumors of mature adipose tissue. They appear as soft, elastic, smooth or multilobulated tumors of variable size, with ill-defined borders, and not adherent to deep planes. The diagnosis is usually made clinically. But ultrasound can be helpful to distinguish a lipoma from an epidermoid cyst or a ganglion cyst [13]. They are generally asymptomatic and they are treated by surgical removal [2].

5.1.6 Fibroma pendulum, skin tags

They are not malignant and their treatment is justified for cosmetic reasons.

5.1.7 Melanocytic nevi

They are acquired lesions in the form of macules or papules or small nodules (<1 cm) and are constituted by groups of melanocytes located in the epidermis, dermis or both areas and rarely in the subcutaneous tissue. Sun exposure contributes to the induction of these lesions.

5.1.8 Actinic keratosis

It is located in sun-exposed areas such as bald scalp, the face, shoulders, ears, neck and the back of the hands. It is caused by damage from exposure to ultraviolet radiation. Actinic keratoses are more prevalent in males of middle-aged.

Actinic keratosis is considered a precancer. 13–25% it could develop into a squamous cell carcinoma.

If lesions are scarce and localized, they may be treated with liquid nitrogen.

5.1.9 Basal cell carcinoma

It is the most common skin malignancy. Approximately 70% of basal cell carcinoma occurs on the face, and 15% presents on the trunk [14]. Exposure to ultraviolet (UV) radiation in sunlight, especially during childhood, is the most important factors that contribute to the development of Basal cell carcinoma.

5.1.10 Squamous cell carcinoma

This is a malignant tumor that usually appears on a previous premalignant lesion and requires a multidisciplinary therapeutical approach involving dermatologists, surgeons, radiotherapists, and chemotherapists [14].

5.1.11 Melanoma

Of all skin malignancies, melanoma has the worst prognosis, Five-year survival rates for people with melanoma depend on the stage of the disease at the time of diagnosis.

5.2 Body areas of risk in minor surgery

High-risk areas for minor surgery include the facial and cervical regions, axillary and supraclavicular regions, wrists, hands and fingers, the groin, the popliteal fossa and the feet.

We must consider those regions with a greater tendency to develop pathological scars (e.g., shoulder, sternal and interscapular region). Also the skin of black patients and children are especially prone.

6. Good clinical practice in minor surgery

6.1 Preoperative

For most basic minor surgical procedures, no preoperative work-up is needed. **Table 3** summarizes the precautions of minor surgery in primary care.

In patients with increased anxiety, 5–10 mg oral or sublingual diazepam, or 1–5 mg sublingual lorazepam can be administered 30 minutes before surgery.

Contraindications for minor surgery: Malignant skin lesion, allergy to local anesthetics, pregnancy (surgery should be deferred until the end of pregnancy, if malignancy is suspected, the patient should be referred to a specialist), an acute illness, doubt about patient’s motivations, patients with psychiatric disorders or

-Surgery in the lower extremities in patients with Diabetes Mellitus and peripheral vascular disease.
-In patients with arrhythmia, severe hypertension, hyperthyroidism, pheochromocytoma or pregnancy, do not add vasoconstrictor to local anesthetic
-Anatomic areas of risk
-In patients with chronic use of corticosteroids.
Protocol for minor surgery in anticoagulated patients
- 3 Day Suspend Sintrom ®
- 2 Day Suspend Sintrom ® and add subcutaneous LMWH
- 1 Day Suspend Sintrom ® and add subcutaneous LMWH, single dose
- 0 Day INR Control. If between 1 and 1.6 proceed to surgery.
LMWH single subcutaneous dose. Patient will take the usual dose of Sintrom ® (the same as before the suspension).
+1 Day LMWH single subcutaneous dose usual dose of Sintrom ®
+2 Day usual dose of Sintrom ®
+3 Day LMWH single subcutaneous dose. Usual dose of Sintrom ®
+4 Day usual dose of Sintrom ®
INR will be obtained on day +10 (seven days after surgery)

Table 3.
Precautions of minor surgery.

uncooperative patients or refusal to sign the informed consent form is a contraindication for any minor surgery procedure or technique.

Direct oral anticoagulants [DOACs] (Dabigatran, Rivaroxaban, Apixaban, Edoxaban): If a moderate or high bleeding risk surgery, it can be omitted for approximately 2–3 days before a procedure, and resume 24 hours after surgery. However, cutaneous procedures (e.g., skin biopsy, tumor excision, bone marrow biopsy) generally considered to confer a low risk of bleeding [15].

6.2 Intraoperative complications

Vasovagal syncope is the most frequent complication and is more common in young men. Even some patients lose consciousness.

Treatment consists in administering oxygen and iv. fluids if needed and, in severe cases use atropine (0.5–1 mg sc or iv). Generally, most of patients recover spontaneously over a period of seconds to a few minutes.

6.3 Postoperative complications

- Infection can occur in up to 1% of minor surgical patients, symptoms such as fever and/or chills are only rarely seen. Infections are treated by removing some of the stitches, plus daily cleaning and disinfection of the wound and allowing the wound to close by secondary intention. If necessary an oral antibiotic regimen may be initiated and inserted drain into the wound.
- *Hematoma-seroma*: is paramount suturing the wound in layers with no gaps and, applying a compressive bandage to prevent their formation.
- *Wound dehiscence*: After wound dehiscence, repairs will take place by secondary intention.
- Hypertrophic scar and keloid scarring.

Conflict of interest

The authors declare no conflict of interest.

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