How Do I Perform Procedures in My Office?

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Diagnostic and therapeutic procedures are important skills that family physicians can provide to the community they serve. The Janus survey of Canadian family physicians in 1998 showed approximately 60% of family physicians are involved in minor surgery, with fewer numbers performing aspirations and endoscopy.[1]

Location and timing are important factors to family doctors when deciding whether to incorporate procedures into their practices. Family physicians that have access to outpatient departments, such as in rural areas, do more procedures.[2] As family doctors withdraw or are forced out of hospital practice, they tend to stop doing procedures or may not recognize that many procedures can easily and effectively be done in an office setting.

Performing procedures in the office has many advantages. It can be very helpful with the diagnosis and treatment of several conditions and can reduce or eliminate waiting time for referrals. Patients appreciate it when a doctor they already have a trusting relationship with is able to carry out the procedure they require. Increased patient and physician satisfaction can be experienced via this approach while enhancing continuity of care.[3-5]

Family medicine procedures are an important and cost-effective component of the health-care system.

Some of the barriers to performing procedures in the office include lack of space, lack of interest or confidence from the physician in performing procedures, lack of time, requisite expensive equipment and lack of adequate remuneration for the time required.

In this article, the author will indicate many procedures that are suitable for family doctors' offices, along with the necessary equipment and supplies.

Office Set-up and Organization

Office procedures should be scheduled on a specific day, which makes scheduling, staffing and handling equipment more efficient. Procedures that lend themselves to this include minor skin surgery, such as excisions and biopsies, ingrown toenail surgery, cryosurgery, intrauterine device insertion and vasectomies. Written explanations of procedures with consent forms and aftercare recommendations can be handed out to patients ahead of time. Procedures that can be completed during regular care on an as-needed basis include needle aspirations and injections, incision and drainage of abscesses and thrombosed external hemorrhoids, punch biopsies, anoscopy and endometrial biopsies.

A separate procedure room is not necessary, but very helpful. Extra lighting may be required, but is easily accomplished using inexpensive, portable fluorescent lamps. Equipment and supplies should be stored close by and labeled for easy access.

Office Procedures

Table I

Procedures Suitable For Family Physician Offices

Skin Surgery	Excision of cysts and lipomata Incise and drain abscesses Excision of nevi, dermatofibromata Excision of skin carcinoma, keratoacanthoma Skin biopsies
Electrosurgery	Skin tags, keratoses Telangiectasia and hemangiomata Curette and cautery basal cell carcinoma
Cryosurgery	Warts, nevi, keratoses
Excision of Ingrown Toenails	
Needle Aspiration and Injection	Joints, tendon sheaths, soft tissues Hydroceles Ganglions Breast lumps
Gynecologic procedures	Intrauterine device Endometrial aspiration biopsy
Ano-rectal procedures	Anoscopy Incise thrombosed external hemorrhoid Rigid sigmoidoscopy
Vasectomy	

Equipment, such as local anesthetic bottle holders, will make things easier for the single-handed doctor.

Table 1 shows a list of procedures that can be done in family physician offices. Some are more time-consuming than others and some require more skill and training, such as sigmoidoscopy and vasectomy.

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Consider doing procedures that can be completed in approximately 30 minutes to make best use of scheduled time.

Instruments and Equipment

Table 2 shows a fairly comprehensive list of equipment and approximate costs for commonly used items. The author has not included such things as dressing supplies or antiseptic solutions.

Some physicians have arrangements for instrument sterilization at a hospital, while for some, an autoclave is essential. Many instruments are now available as sterile disposable units, such as scalpels and punch biopsy tools. Small dressing trays are commercially available, and come pre-packaged with disposable towels and forceps.

Safety and Efficiency of Office Procedures

In general, office procedures are very safe. Major complications, such as infection or bleeding, occur in less than 1% of cases. Post-procedure pain can be handled by local application of ice and/or mild analgesics. Narcotics are rarely required. The possibility of scarring with surgery, electrosurgery and cryosurgery should be addressed with patients. Some procedures, such as excisions and ingrown toenails, should be done using a sterile technique

that requires skin preparation, drapes and gloves. Other procedures, such as needling and aspirations, can be done following a no-touch technique after wiping the skin well with a disposable skin wipe.[6]

Local Anesthesia

Local anesthesia for most skin surgery is easily achieved using 1% or 2% lidocaine, with or without epinephrine (not for fingers, toes, penis or nose). The most useful techniques are direct injections, subcutaneously and intradermally, under the lesion or all around the lesion, as in a field block. Digital block is the most useful technique for toenail surgery anesthesia.

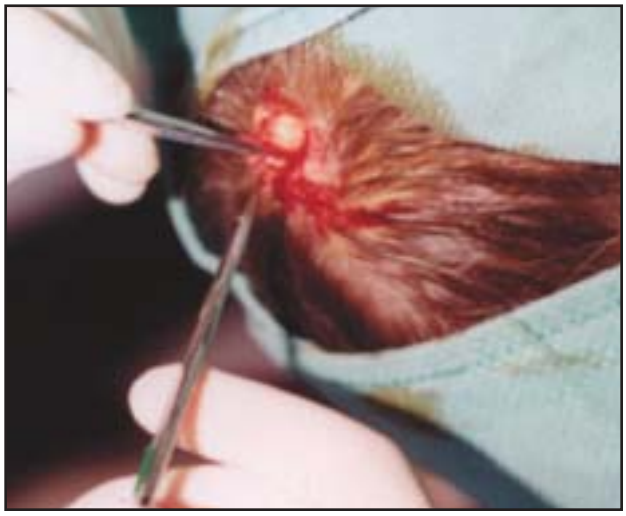

Figure 1. Sebaceous cyst of scalp being dissected free with Iris scissors.

Minor Skin Surgery

Intradermal or subcutaneous skin lesions, such as cysts, lipomata and nevi, can be excised through a straight or elliptical incision, carefully oriented according to skin tension lines. The lesion is removed through a combination of sharp and blunt dissection using a scalpel and Metzenbaum or Iris scissors (Figure 1).

Warts, nevi and keratoses can be removed by shave biopsy with a scalpel, punch biopsy or

Table 2

Instruments and Equipment For Family Physician Office Procedures

Instruments and Equipment	Approximate Cost
Skin Surgery	
Scalpel (disposable, various blade types)	$1 each
Scalpel (reusable)	Up to $10
Scalpel blades	$22/150
Forceps (Adson, toothed)	$10
Scissors (Iris)	$10
Scissors (straight)	$10
Scissors (stitch)	$10
Scissors (Metzenbaum)	$10
Hemostats	$13 to $16
Sharp skin curette	$20
Punch biopsy (disposable, various sizes)	$3.50 each
Disposable sterile dressing tray	$3 each
Sterile gloves	$1 per pair
Suture (nylon or Prolene)	$55/12
Syringes (3 cc with needle)	$16.40/100
Lidocaine	$5 to $7/50 cc vials
Electrosurgery	
Electrosurgery unit	$1,500 to $3,000
Battery powered cautery unit	$40
Disposable cautery tips	$62/100
Cryosurgery	
Cryosurgery spray unit (liquid nitrogen)	$600
Autoclave	$1,500 to $2000
Gynecologic	
Vaginal specula (reusable)	$15
Vaginal specula (disposable)	$1
Cervical tenaculum	$20 to $60
Uterine sound	$15 to $40
Vaginal sponge forceps	$58
Endometrial aspiration biopsy	$5
Anoscope (disposable)	$1
Rigid sigmoidoscope (disposable)	$4 to $5
Endoscope light source (rigid sig.)	$200 to $300
No-scalpel vasectomy instruments	$300/set

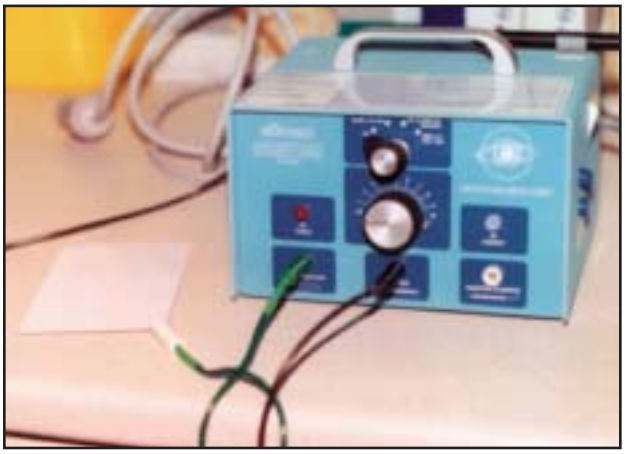

Figure 2. Electrosurgery unit, Ellman Surgitron.

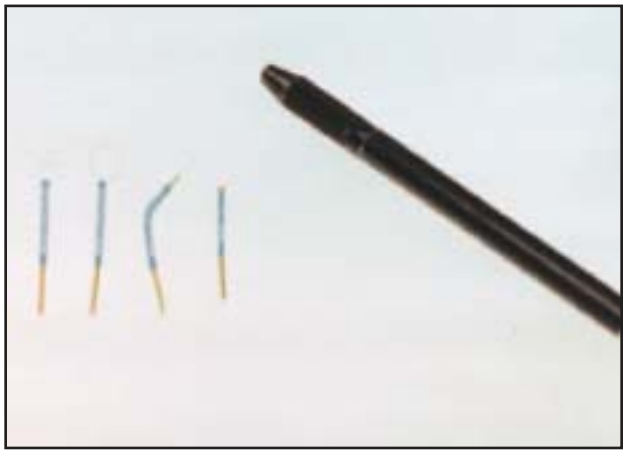

Figure 3. Surgitron wand and fine wire electrodes.

electrosurgery. The author finds the cutting and cautery option with an electrosurgery unit and loop electrode ideal for removing superficial skin lesions, such as skin tags, seborrheic keratoses, nevi, some warts and pyogenic granuloma (Figures 2 and 3). The lesion is removed completely, leaving a light burn on the skin to which a small amount of antibiotic ointment can be applied. Healing progresses well (Figures 4 and 5).

Small skin cancers, such as basal cell carcinoma and squamous cell carcinoma, can be fully excised as long as they are not in difficult areas, such as alongside the nose or on the ear. This can be done using excision techniques or by using a skin curette and cautery, carefully repeated three times. The latter technique leaves a light burn on the skin that usually heals well, but requires careful followup.

Cryosurgery

Cryosurgery with liquid nitrogen is effective for a variety of superficial skin lesions. Guidelines regarding the duration of freeze times for various lesions are available. The side effects of such a surgery include pain, skin blistering and, after healing, slight scarring and hypopigmentation for those with dark skin. Effectiveness ranges from approximately 60% for warts to between 90% and 95% for selected basal cell carcinomas.[7]

Aspiration and Injections

At various times, aspirating a joint or soft tissue lesion with a needle can be an extremely helpful technique for diagnosis and treatment. The knee

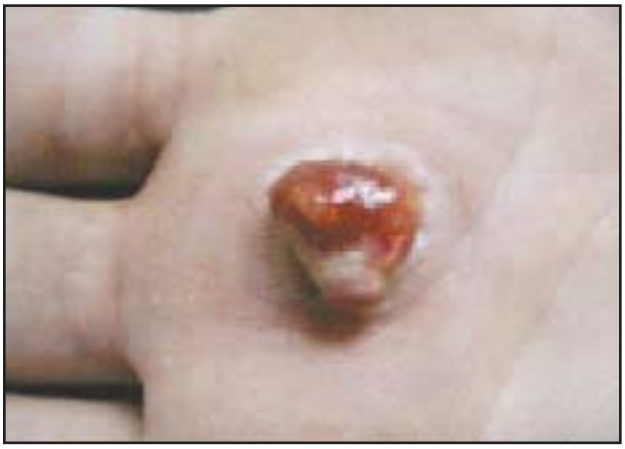

Figure 4. Pyogenic granuloma of palm.

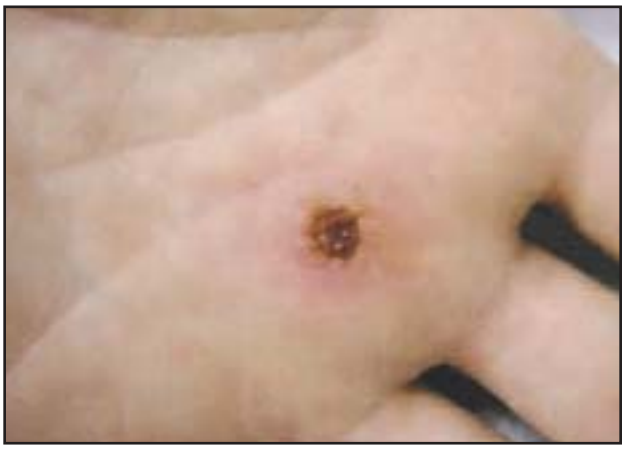

Figure 5. Palm of hand one week after removal of pyogenic granuloma by electrosurgery.

and shoulder joint, via the subacromial approach, are the most common joints that would be injected in the office. Other inflamed soft tissues amenable to office injection are bursitis, epicondylitis and, occasionally, plantar fasciitis. Complications are rare and steroid injections usually provide some degree of pain relief. When a no-touch technique is carefully used, the infection rate is very low for these injections and aspirations. Aspirating a breast cyst can be both diagnostic and therapeutic, and can provide a great sense of relief for a woman with a tender breast lump.[8]

Ingrown Toenails

Recurrent infected ingrown toenails can be painful and debilitating. A procedure that is easily done by family physicians can resolve the problem and significantly reduce the rate of recurrence. After anesthesia, using a digital block with 2% lidocaine and under tourniquet control, a strip of nail (up to 25%) is excised down the affected side. The germinal matrix in that area is treated with 90% phenol. The defect heals gradually over three to four weeks. Follow-up is important to watch for superficial infection. Recurrence of an ingrown toenail at that site is less than 10% for this procedure.[9]

Anoscopy and Sigmoidoscopy

Anoscopy and rigid sigmoidoscopy are easily performed techniques in the office, but are not done by many family physicians.[2] Anoscopy using a disposable plastic anoscope takes only a few seconds, requires no anesthetic and is invaluable in diagnosing anal fissure and hemorrhoids. Complications are negligible. Rigid sigmoidoscopy using a disposable scope can be done as long as the patient has had a recent bowel movement. No anesthetic is required here. This procedure is invaluable in assessing the cause of rectal bleeding, ruling out proctitis and, occasionally, in diagnosing rectal carcinoma. Such procedures can save your patient a lot of waiting and worrying.

Endometrial Biopsy

Endometrial aspiration biopsy is a valuable procedure for office evaluation of abnormal bleeding in peri- and post-menopausal women. The biopsy tool is a thin plastic catheter that can be passed through the cervix (occasionally with the aid of a cervical tenaculum), and a small amount of endometrium can be aspirated for pathologic examination. Some women experience mild-to-moderate cramps with the procedure, and the serious complication rate is less than 1%. The technique is just as accurate as

dilatation and curettage for diagnosing endometrial carcinoma.[10,11]

The Future for Family Medicine Procedures

In the future, the author believes family physicians will be encouraged to perform even more procedures in their respective offices. As more treatment is shifted from inpatient to outpatient settings, there will be a need for minor surgery and diagnostic procedures to be done by family physicians. As family doctors associate more in groups or networks, the feasibility of one or more of a group of doctors specializing in certain procedures becomes economically sound and more efficient. The building of new clinics with purpose-built procedure rooms may increase the scope of family medicine procedures to include, for example, more endoscopy.

In the future, family doctors will have more opportunities to incorporate procedures into their practices. Don't forget your office as a suitable setting for these skills. CME

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Suggested Readings

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