

# OFFICE PRACTICE OF SKIN SURGERY

BRYAN C. SCHULTZ, M.D.

PETER McKINNEY, M.D.

# OFFICE PRACTICE OF SKIN SURGERY

BRYAN C. SCHULTZ, M.D.

Assistant Clinical Professor of Medicine  
(Dermatology), Loyola University, Maywood, Illinois

PETER McKINNEY, M.D.

Professor of Plastic Surgery,  
Northwestern University, Chicago, Illinois

1985

W. B. SAUNDERS COMPANY

Philadelphia / London / Toronto / Mexico City / Rio de Janeiro / Sydney / Tokyo

W. B. Saunders Company: West Washington Square  
Philadelphia, PA 19105

1 St. Anne's Road  
Eastbourne, East Sussex BN21 3UN, England

1 Goldthorne Avenue  
Toronto, Ontario M8Z 5T9, Canada

Apartado 26370—Cedro 512  
Mexico 4, D.F., Mexico

Rua Coronel Cabrita, 8  
Sao Cristovao Caixa Postal 21176  
Rio de Janeiro, Brazil

9 Waltham Street  
Artarmon, N.S.W. 2064, Australia

Ichibancho, Central Bldg., 22-1 Ichibancho  
Chiyoda-Ku, Tokyo 102, Japan

**Library of Congress Cataloging in Publication Data**

Schultz, Bryan C.

Office practice of skin surgery:

1. Skin—Surgery. 2. Surgery, Outpatient. I. McKinney, Peter. II. Title. [DNLM: 1. Ambulatory Surgery. 2. Skin—surgery. WR 650 S387o]

RD520.S38 1985 617'.477 84-14022

ISBN 0-7216-1326-8

Office Practice of Skin Surgery

ISBN 0-7216-1326-8

© 1985 by W. B. Saunders Company. Copyright under the Uniform Copyright Convention. Simultaneously published in Canada. All rights reserved. This book is protected by copyright. No part of it may be reproduced, stored in a retrieval system, or transmitted in any form or by any means electronic, mechanical, photocopying, recording, or otherwise, without written permission from the publisher. Made in the United States of America. Press of W. B. Saunders Company. Library of Congress catalog card number 84-14022.

Last digit is the print number: 9 8 7 6 5 4 3 2 1

# Preface

This book is written for the practicing dermatologist, housestaff, general practitioners, and other physicians who perform many common surgical procedures on the skin. It should prove helpful in quickly obtaining practical information concerning aesthetic results in common surgical procedures of the skin.

This text takes a different approach than do plastic surgery books and most skin surgery texts written for dermatologists, in that we present a regional and a pathological approach. One section deals specifically with the surgical treatment of skin lesions in different regions (e.g., eye, nose, hand). Generally, defects that can be closed by simple advancement techniques are the topic of discussion in this regional approach rather than major reconstructive challenges, which are better left for the plastic surgeon. Another section discusses the most common skin lesions by pathological diagnosis with an emphasis on aesthetic results (e.g., nevi, epidermal cysts, seborrheic keratoses, basal cell carcinoma).

This regional and pathological approach will give the practitioner an easy reference for specific skin lesions in specific areas. For example, in considering a 0.4 cm nevus on the nose, a reference to nevi in the pathological section and the nose in the regional section will provide practical information needed.

Advances in techniques, suture materials, dressings, and assorted instruments allow for better aesthetic results for even the simplest surgical skin procedures. An introductory section discusses the outpatient facility, instruments, preoperative evaluation, anesthesia, suturing, and wound dressings. An appendix shows photos of some common equipment and instruments helpful in doing office surgery.

We hope that the co-authorship of a plastic surgeon and a dermatologist will provide a broader viewpoint of skin surgery. The plastic surgeon offers the focus to enable the reader to achieve maximum aesthetic surgical results. The dermatologist handles the many practical problems of the large number of skin lesions presented to him daily in an office setting.

Techniques most likely to give superior cosmetic results are stressed, but alternative modalities are mentioned. The authors by training and experience have a clear preference for excisional surgery in many circumstances, but fully recognize that other techniques may be quite acceptable when performed by physicians frequently using them.

BRYAN C. SCHULTZ

PETER MCKINNEY

# Contents

## PART 1 Introduction to Skin Surgery

### chapter 1

THE OUTPATIENT SKIN SURGERY SUITE AND SURGICAL INSTRUMENTS .....	3
--	---

### chapter 2

PREOPERATIVE EVALUATION AND PREPARATION OF THE PATIENT .....	9
--	---

### chapter 3

ANESTHESIA .....	15
------------------	----

### chapter 4

SCAR FORMATION .....	23
----------------------	----

### chapter 5

WOUND CLOSURE .....	39
---------------------	----

## PART 2 Skin Surgery Techniques Without the Scalpel

### chapter 6

THE DERMAL PUNCH FOR SKIN BIOPSY AND SMALL INCISIONS .....	51
--	----

### chapter 7

ELECTROSURGICAL TECHNIQUES .....	63
----------------------------------	----

## PART 3 A Regional Approach to Skin Surgery

### chapter 8

REGIONAL APPROACH TO EXCISIONAL BIOPSY .....	75
--	----

PART 4 A Pathologic Approach to Surgery  
of Common Skin Lesions

chapter 9  
BENIGN AND PREMALIGNANT EPIDERMAL SKIN LESIONS ..... 87

chapter 10  
BENIGN DERMAL SKIN LESIONS ..... 109

chapter 11  
BENIGN CYSTIC SKIN LESIONS ..... 137

chapter 12  
MALIGNANT SKIN TUMORS ..... 145

APPENDIX ..... 161

INDEX ..... 179

PART 1

---

Introduction  
to  
Skin Surgery





## THE OUTPATIENT SKIN SURGERY SUITE AND SURGICAL INSTRUMENTS

Most offices can easily have one room set up for excisional skin surgery. It is preferable to have this room used exclusively for surgery of the skin. If this is not possible, meticulous attention to cleaning of all surfaces within the room is mandatory. Personnel circulating in this room should be clothed in proper surgical attire and should not be wearing laboratory jackets or other clothing that could be contaminated from other patients.

Patients known to be carrying pathogenic bacteria or viruses (for example, patients with herpes simplex, abscesses, or impetigo) should be kept out of the room. This is especially true if the operating room is located in a busy general or dermatologic practice. Patients with generalized skin disease such as atopic eczema and psoriasis are known to frequently harbor coagulase-positive staphylococci. Patients with these diseases or with draining, crusting lesions should be kept out of the room. Common sense dictates that drainage of furuncles, acne cysts, infected epidermal cysts, and so on should not be done in this room.

It is best that the room to be used for surgery be located in an area of low traffic flow. The room should have a separate entrance and exit and should not serve as a thoroughfare to another room. There should be adequate space, ventilation, and cooling at all times in the surgery room. This becomes extremely important for both patient and physician, since active perspiration by the patient during the procedure from excessive heat may lead to extreme discomfort and possible contamination of the wound. Adequate ventilation and proper positioning are necessary for patients with cardiorespiratory problems. It should be

remembered that if the physician uses only one assistant, three people (i.e., physician, assistant, and patient) will be confined to a small area for a prolonged period.

A cool light source should always be used, since lighting contributes to increased temperature in the operative area. High quality surgical lighting, preferably mounted on the ceiling and having a sterilizable handle, should be used. There are acceptable floor stand models, but these can become cumbersome in certain situations and may interfere with the mobility of the physician or his assistant. Spotlight-type surgical lamps may shed brilliant light that can interfere with the surgeon's perception by blinding his vision or by casting deep shadows in portions of the surgical field. It is advisable to talk to a physician who has used a similar light prior to purchasing any expensive surgical lighting device.

The single most important piece of equipment is the operating table. A power table with adjustable articulating headrest and footrest is preferable. Separate controls for table height, head elevation, and preferably foot elevation should be included. Such controls may be built into the head of the table itself or may be available as a foot control. A foot control is preferable because it enables the surgeon to adjust the table himself during surgery. Ideally, the table should be capable of being rapidly placed in a Trendelenburg position. The surface of the table should be easily washable and preferably should accommodate a paper roll. Some dental and podiatry chairs will not accommodate a paper roll; these chairs may also have stitching that could become stained with blood. Small potential problems such as these should be considered and checked before a power table is purchased.

Some tables are equipped to rotate 180 degrees on their base, but this feature is not needed in most offices. The physician may find that operating from a sitting position is most comfortable or most appropriate in certain circumstances. The table should therefore be adjustable to the appropriate height. The surgeon may also prefer a table with a head piece narrower than the rest of the table to permit easy accessibility to the head and neck area, especially if he does cosmetic procedures frequently.

If purchase of a chair-type table is being considered, several factors should be scrutinized. A table may be well suited for surgery in the area of the face but have a permanent curvature in the area of the trunk, causing that area to be flexed during surgery. Such a curvature would also make the prone position uncomfortable or impossible. Some tables also have a permanently attached foot rest that is perpendicular to the table, making surgery of the foot on these tables almost impossible.

One dental chair that is particularly good for office surgery is the Pelton Crane Coachman. This chair is extremely comfortable for patients and will recline completely, allowing for surgery with the patient in a horizontal position without significant curvature of the torso. It may even be placed in a slight Trendelenburg position. This feature also allows the patient to lie comfortably on his stomach, a problem when a fixed-contour curvature is present in a power chair. Armrests swing out readily for access to any area. A good articulating headrest is an available option. A unique power switch enables the operator to raise or lower the chair base and back at the same time with one finger. Foot control is also available. With one touch of a button the chair will descend and return to the sitting position automatically. A more expensive model can be

programmed to assume automatically any position the operator desires. Chair-mounting posts may hold any dental light, but such lighting is a small, restricted horizontal band that will not illuminate evenly a whole face at once and therefore may be inappropriate for some skin surgery.

A disadvantage of the Pelton Crane dental chair is the need to add extra upholstery or other insulation to the bottom of the arms. The exposed metal on the undersurface could transmit electrosurgical current through the patient's hand, especially if a good grounding plate is not used. This alteration is a simple procedure, however, for a chair that patients describe as extremely comfortable.

Another popular chair-type table is the Dexta table. Although it is considerably more expensive, it is an excellent table. It is available in a narrower model that permits easy access to the center of the torso during surgery. If the surgeon operates with his back bent even two inches more than normal for any period of time, back fatigue will be considerably increased. This factor is not a minor point, and it is unfortunate that many office procedure/surgery tables are considerably wider than standard operating tables. It is important to compare table width before buying. The Dexta table has optional stirrups, intravenous pole, and arm boards that are not available with the Pelton Crane dental chair.

It is preferable to have a tile floor in the surgical area for easy cleaning. Shelving and other surfaces should be washable for cleaning and disinfection. Stainless steel tables and shelving are preferable but not necessary. A Mayo stand of adjustable height should be placed close to the operating area. Medications for intravenous, intramuscular, and local infiltration may be located on shelving close to the operating area. Any chemical cauterants or hemostatic agents should be placed far enough away that they cannot spill into the operative area. A full bottle of sterile eye wash should be close at hand in case an irritating substance gets into the patient's eye.

The surgical sink should have a faucet placed well above the sink itself, allowing the physician to scrub and rinse freely under running water. Disposable, sterile surgical scrub brushes with appropriate impregnated disinfectant should be available above the sink area. Either foot pedals or a knee control is preferable for the surgical sink. Sterile towels may be handed to the physician at the time of surgery. These may be contained in the surgical pack or packaged separately.

## THE SURGICAL PACK

The following are some general suggestions for a standard surgical pack to be used during routine surgery of the skin. Many additions (especially instruments) may be made to such a pack. Instrument type and size depend largely on the personal preference of the operator.

The surgical pack may be wrapped in suitable cloth material (for example surgical towels) or in autoclave paper and closed with autoclave tape. The autoclave tape will turn the appropriate color when sterilization is complete, as an added check on sterilization. Optional colored autoclave tape may be used for coding packs, and the tape may also be written on to describe the contents.

The surgical pack may be sterilized with steam under pressure in the autoclave. A separate sharp instrument pack may be sterilized with dry heat to avoid dulling sharp edges. The latter technique requires the

use of a metal instrument tray or wrapping the instruments in metal foil (e.g., aluminum foil). A sterile transfer forceps is then used to transfer instruments to the open sterile autoclaved pack. (We autoclave all instruments in the surgical pack for convenience.)

The following is a list of recommended materials to be contained in the surgical pack (Fig. 1-1) to be autoclaved under steam pressure:

1. An adequate number of  $2 \times 2$  or  $4 \times 4$  sponges
2. A pointed wooden tooth pick for drawing the line of excision
3. A glass 5-cc syringe (optional). A disposable syringe may be added at the time of surgery.
4. Towel drapes (if sterile disposable fenestrated drapes are not used)
5. Four or more towel clamps (if towel drapes are used)
6. A No. 3 Bard-Parker scalpel handle with centimeter markings on one side
7. A  $4\frac{1}{2}$  inch (Webster or Ryder type) smooth jaw needle holder. Note that the jaw of the Ryder is narrower, allowing more needle exposure when passing small precision point needles through tissue.
8. Two or three short, curved mosquito hemostats
9. A small glass or metal medicine cup for marking dye (optional)
10. A small tissue forceps with medium  $1 \times 2$  teeth (e.g., Adson or Castro-Viello type)
11. One forceps without teeth
12. One or two skin hooks (optional)
13. One dissecting scissors (optional)

The following are sharp instruments that may be sterilized by dry heat to prevent dulling, if preferred:

1. One short, curved, sharp iris scissors
2. One straight suture scissors

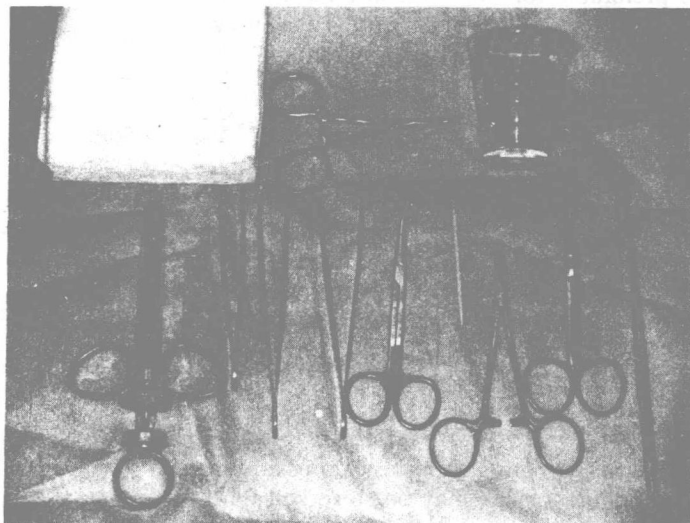
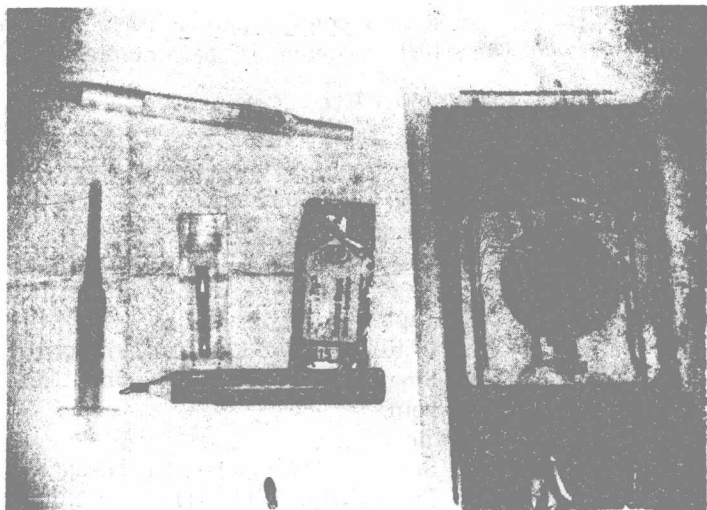


FIGURE 1-1. Surgical pack.

**FIGURE 1-2.** Sterile items that may be added to the surgical pack



The following may be added to the open surgical pack at the time of surgery (Fig. 1-2):

1. Disposable plastic 5-cc syringes with attached 18-gauge needle
2. A 30-gauge needle (this may be attached after anesthetic is drawn up in the 18-gauge needle)
3. Disposable fenestrated drape with adhesive backing (e.g., 3-M Steridrape), clear or blue
4. A No. 15 Bard-Parker blade
5. A disposable hot cautery unit (e.g., Concept Unit) (optional)
6. Handle for electrocoagulator (if used for electrocoagulation of blood vessels, a ground plate should always be placed under the patient)
7. Appropriate absorbable and nonabsorbable sutures
8. Sterile methylene blue or gentian violet may be added to the medicine cup at the time of surgery.

## THE EMERGENCY KIT

One of the most important items for any medical office, whether office surgery is done there or not, is an adequate emergency kit. All physicians should have had extensive training in CPR and should routinely refresh their memories by mock sessions if they do not perform CPR regularly. In a day when even nonmedical personnel are trained extensively in CPR, the staff of physician's office should serve as an example of a well-trained unit. A myocardial infarction or cardiac arrhythmia may occur in the physician's office, totally unrelated to any therapy or surgery being done. The physician's staff should be thoroughly trained in dealing with such an emergency.

The primary goal during any emergency is to maintain vital functions until the patient can be transported to a proper hospital facility. If surgery is done in the office, phone numbers for the best paramedical ambulance teams in the area should be available at all phones. Staff members should have well-defined duties in case of emergency. We will not attempt to cover the broad field of emergency medicine but simply

make some recommendations as to the essentials of an emergency kit. The following items may be contained in an emergency kit for the office:

#### EMERGENCY KIT

1. Oxygen supply system
2. "Ambu" bag with adult and pediatric masks and tubing for connection to oxygen system
3. Intravenous equipment
  - A. Tourniquet
  - B. Angiocath or Intracath tubing with 18-gauge needles
  - C. Tape and arm board
  - D. IV tubing and 500-ml bags of normal saline and D5W
  - E. Small excision kit for possible "cut-down" to obtain an adequate vein
4. Medications
  - A. Sodium bicarbonate—prepackaged 50-ml syringes (at least two)
  - B. Epinephrine 1:1000 (1-ml ampule) for allergic reactions  
1:10,000 (10-ml ampule with intracardiac needle)
  - C. 50% dextrose (50-ml ampules) for hypoglycemic reactions
  - D. Lidocaine 2 per cent (5-ml syringe—100 mg)
  - E. Aminophylline (10-ml (250 mg) ampules)
  - F. Narcan (10 ml (0.4 mg/ml))—only if narcotics are used before or during surgery
  - G. Valium (10-mg ampule for IV use)—for epilepsy
  - H. Benadryl (50-mg ampule)

When only plain lidocaine is being used as an anesthetic during skin surgery, cardiorespiratory complications directly due to surgery are highly unlikely. Blood loss should be minimal. History should rule out the extremely rare, true allergic reaction to lidocaine. In these circumstances there is no more risk of cardiorespiratory emergency than that encountered in a dentist's office. In fact, since skin surgery should be painless, the psychologic stress factor should be less than in a dentist's office or a court of law.

Careful analysis of relative risk, therefore, does not dictate a need for EKG equipment or defibrillators. To put this in perspective, it is not practical to have such equipment everywhere a person possibly under some emotional stress (such as skin surgery) is in close proximity to a person capable of using a defibrillator. Extensive procedures with the use of multiple drugs for anesthesia may be more easily and appropriately done in a facility that routinely handles such cases.



# PREOPERATIVE EVALUATION AND PREPARATION OF THE PATIENT

A good history and physical examination are essential to the preoperative evaluation of any surgical patient. For office or outpatient surgery, an extensive questionnaire is often helpful in evaluating the patient. This questionnaire may contain any current symptomatology; a detailed past history of procedures performed, with dates and reasons for the procedures; past hospitalizations; a good family history with specific questions concerning bleeding disorders and cardiovascular disorders; all current medications; any history of allergies (especially to local anesthetic); and the date of the most recent complete physical examination.

The patient may also be questioned specifically concerning any history of epilepsy, since it is possible to precipitate convulsions with larger doses of anesthetic. If electrocoagulation is to be used during surgery, the patient should be questioned about a cardiac pacemaker. This is particularly a problem with demand-type pacemakers, since the electrical current may falsely indicate the presence of a heart beat to the electronic pacemaker. In this situation the pacemaker will not electrically induce a cardiac contraction that may be needed.

Although frequently ignored, a complete examination of the entire skin surface prior to surgery may uncover other bacterial, viral, or fungal disease in areas distant from the surgical site. The physician may elect to simply question the patient concerning symptoms of such infections. Although infections need not be absolute contraindications to skin surgery at a different location, adequate precautions must be taken. Likewise the patient may be questioned as to symptomatology indicating infection of the upper respiratory, gastrointestinal, and genitourinary systems. If surgery is to be done in the facial or genital area, the patient

may be questioned about a history of herpes simplex in these areas. The physician and patient should be aware of the fact that the trauma of surgery in an area where recurrent herpes simplex has been a problem may precipitate the herpetic infection in that area. The development of a herpetic infection in the area of surgery can result in a poor cosmetic result. This is especially true in the perioral region. The patient should also be told to report any herpetic infection developing between the time of the preoperative visit and surgery. In fact, specific instructions should be given to the patient to report any infection or other physical ailment developing between the time of the preoperative visit and the scheduled surgery.

Blood pressure, pulse, and respiratory rate may be taken at the preoperative visit and also immediately prior to surgery. This is more important when using epinephrine in the anesthetic. Plain lidocaine in small amounts locally infiltrated should not affect these parameters. Blood pressure is especially important, since hypertensive patients may bleed profusely, especially when undergoing surgery of the scalp or other vascular areas. Special note should be made of any irregularities in pulse, especially in older patients. These patients may have multiple PVC's or atrial fibrillation unknown to them or their family physician, whom they may not have seen for several years.

Any medications, either prescription or nonprescription, should be brought to the attention of the physician. Anticoagulants and especially any aspirin-containing remedies may make surgery more difficult by causing profuse bleeding. This is especially of interest if epinephrine is not used with local anesthetic infiltration. Many small procedures may frequently be performed even with prolonged bleeding times, but this requires careful evaluation of the risk of hematoma or bleeding and their consequences in the area to be operated on.

The patient should be warned to avoid any aspirin or aspirin-containing products for at least seven to ten days prior to the procedure. The patient and physician should be aware of the fact that as little as one aspirin tablet will induce the maximum bleeding defect. Depending upon the severity of pain the patient may use acetaminophen or acetaminophen with codeine. If skin surgery is anticipated to be quite vascular, as with extensive scalp surgery, avoiding aspirin-containing products may be quite important; however, if the procedure is limited and aspirin-containing products for the management of arthritis or other severe inflammatory disorders are necessary, these products may be continued in most circumstances.

Cardiac medications, antihypertensive medications, and antiarrhythmic medications should be carefully reviewed. The patient should be specifically instructed to continue these medications. This may be in contrast to what is done for procedures under general anesthesia.

Except for some concern for occasional problem bleeding, most skin surgery can be performed while the patient continues to take all of his current medications. Diabetics who are on hypoglycemic agents or insulin should be questioned concerning appropriate meal time. If this falls during probable surgery time, it may be better to reschedule the surgical time rather than change routine medication times.

Blood testing should probably be done prior to some minor surgical procedures. If recent testing has been done by the patient's general physician, it may be helpful to obtain results from him. A CBC with



differential, a fasting chemistry screen, and a coagulation profile may be in order. A prothrombin time (PT), partial thromboplastin time (PTT), bleeding time, and platelet count should be sufficient for most patients without a family history of coagulation disorders. These are usually needed only with extensive or particularly vascular skin surgery.

With more vascular procedures and especially procedures that may spray blood (for example, hair transplantation with power punch and dermabrasion), the physician may want to order a test of hepatitis surface antigen. Questions as to previous hepatitis and possible recent contact, along with screening of liver enzymes on the chemistry screen, should identify many patients recently infected as well as possible chronic carriers. Physicians doing frequent skin surgery should consider immunization of themselves with the new hepatitis B vaccine. This is especially true for those using frequent electrosurgery where blood droplets spatter far enough to reach mucosal surfaces of the eye, nose, and mouth. This is a good reason to use a mask even for minor electrosurgery.

For most routine surgery of the skin the patient does not have to scrub with an antibacterial agent prior to surgery. The surgical area should be thoroughly washed the night before the procedure. Allow the patient to have a light breakfast with juice on the morning of the procedure. This can prevent hypoglycemia. Unlike general anesthesia, vomiting is not a problem with local infiltration anesthesia. The patient should avoid any caffeinated beverages on the day of the procedure, since they may precipitate hypertension or arrhythmias.

### **SKIN DISINFECTION AND PROTECTION OF SURGICAL PERSONNEL**

Disinfection of surgical personnel and the surgical site before skin surgery must take into account both resident and transient bacterial flora, regional variation in bacterial populations and density, available scrubs and disinfecting agents, and sterile protective coverings. There is no doubt that with most general surgery more meticulous attention to scrub technique, disinfection of the skin, and sterile protective surgical wear have led to a dramatic decrease in postoperative wound infections; however, when performing limited procedures on the skin, many physicians question the necessity for sterile technique as rigid as that used in a standard operating room. Perhaps one way of assessing the effectiveness of aseptic surgical technique is to record any postoperative wound infection and to compute an approximate percentage infection rate. This rate should usually not be greater than 0.1 per cent (1 per 1000).

In our office surgical rooms, an estimated 3000 minor surgical procedures are performed each year. Approximately 1500 to 2000 procedures require sutures. Infection rate (small amount of pus, fever, or localized erythema and induration) is at most 0.03 to 0.08 per cent (one or two infections per year). Serious infections (cellulitis, copious pus, lymphangitis, etc.) are almost never seen. For approximately the last 7500 surgical procedures we have used plain 70 per cent isopropyl alcohol cleansing of the surgical site, except for using povidone-iodine (Betadine) in the genital area, perirectal area, lower legs, and feet. Application of dry sterile postoperative dressings (e.g., gauze) and gentle