It is imperative that all family physicians be aware of the existence of the dermatoscope (dermoscope is a synonym) (Figure 1). The light source and magnifying optics within this handheld instrument are designed to minimize light reflection off the skin surface (eliminates glare), thereby allowing the observer to visualize skin structures below the stratum corneum. These dermoscopically observed skin structures are not usually visible to the unaided eye. The presence or absence of specific dermoscopic structures within a skin lesion can greatly improve the clinician’s diagnostic accuracy. Not only can this instrument help the family physician to correctly diagnose all types of skin cancer at an early stage (Figure 2), it can also be used to detect the scabies mite, evaluate inflammatory skin diseases, and diagnose nail and hair abnormalities. In a world with limited access to dermatology, family doctors are often the first to diagnose and treat skin disease. The realization of this fact has prompted many family physicians to invest in buying, learning, and using dermoscopes. The increasing interest of family physicians for dermoscopy is also reflected in the growing interest of family physicians in attending dermoscopy courses provided at AAFP meetings. Two years ago, the AAFP added the first dermoscopy workshop to the Scientific Assembly. This proved to be successful and prompted the AAFP to offer the dermoscopy workshop four times at the 2010 Assembly meeting.

As stated above, dermoscopy allows the clinician to observe morphologic structures below the surface of the skin that are otherwise not visible to the naked eye. The presence or absence of dermoscopic structures, their association with each other, and their distribution within a lesion often lead to a specific diagnosis. In two separate meta-analyses, dermoscopy had significantly higher discriminating power than clinical examination without dermoscopy.1,2 In another study, the malignant to benign biopsy ratio improved for dermoscopy users from 1:18 to 1:4.3 In addition, it has been shown that dermoscopy improves the ability of PCPs to triage lesions suggestive of skin cancer without increasing the number of unnecessary expert consultations.4

Regarding the instruments, dermoscopes illuminate the skin via the use of LED (light emitting diodes) lights with or without the use of polarizing filters. Although most units are dedicated as either non-polarized (no polarizing filters in place) or as polarized (polarized filters used), a few newer units known as hybrids allow the operator to toggle between polarized and non-polarized light within the same unit. Although most colors and structures in the skin...
Dermoscopy continued from page 1

Figure 2

Dermoscopy of Melanoma in-situ*

* shows an atypical network, blue-white veil and peppering that is typical of regression seen in some melanomas. Bottom right insert is the clinical image without dermoscopy.

can be seen with either non-polarized dermoscopy or polarized dermoscopy, a few structures can only be seen with one or the other. In other words, non-polarized dermoscopy and polarized dermoscopy provide complementary information. For those interested in capturing images of lesions viewed with dermoscopy, most dermoscopes can easily be attached to cameras via coupling rings. In addition, there are now dermoscopes that can even attach to your iPhone camera, making it much easier to practice teledermatology.

Family doctors can and should learn dermoscopy and teach it to residents and medical students. Family doctors using dermoscopy can serve as role models by embracing new technologies aimed at improving the quality of patient care. Here are some Web sites that can help you get started:

http://www.dermoscopy-ids.org/
Web site of the International Dermoscopy Society

http://www.dermoscopy.org/
Web site that includes a free Dermoscopy tutorial

References


Richard Usatine, MD, University of Texas Health Science Center at San Antonio, Editor

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Helping You Teach Better—The STFM Resource Library

Smoking Cessation Encounter Form................................................................. www.fmdrl.org/3211

This single page form will help you counsel patients to quit smoking.

Teaching Learners the Patient-Centered Use of Technology in the Exam Room ................. www.fmdrl.org/3227

This PowerPoint lecture is from the Northeast Regional AAMC Informatics Faculty Development Workshop site and will teach learners the patient-centered use of technology in the exam room.

Aiming Higher...Because Fitness is Always Good Medicine! ........................................ www.fmdrl.org/3205

AIM-HI challenges physicians to address their own personal “fitness” activities, assess the messages the physicians, staff, and office environment send to patients concerning physical activity, healthy eating, and emotional well-being and engage in helping promote “fitness” at the individual, family, and community levels.
Clinical Guidelines That Can Improve Your Care

Preoperative Evaluation

By Diana L. Heiman, MD, University of Connecticut

The preoperative examination—“clearance”—risk assessment—whatever you want to call it; it’s a common occurrence in my office. I think we end up ordering a bunch of labs and studies because they are required by the surgeon or facility where the surgery is occurring. Are these evidence based? An unequivocal NO!

The Institute for Clinical Systems Improvement (ICSI) released an updated guideline on preoperative evaluation in 2010. This updates the 2008 guideline and stresses that a comprehensive history and physical examination are typically sufficient to evaluate surgical risk. Most non-high-risk patients undergoing non-high-risk procedures also do not require laboratory or electrocardiographic evaluation prior to the proposed surgery. An 11-point algorithm (Figure 1) helps the physician assess risk and orders only the appropriate testing based on that risk and the type of procedure being performed.

The guideline deals with low-risk elective surgeries and does not address the evaluation needed for urgent or emergent procedures. There are recommendations for pediatric patients ages 2–15 years and adults, considered anyone over the age of 15, for guideline purposes.

The aims of the guideline are to ensure that all patients over the age of 2 years undergo a comprehensive history and physical examination prior to non-high-risk diagnostic or therapeutic procedures and do not undergo unnecessary testing. Testing, including electrocardiograms, are only recommended if risk factors exist, including age-related risks. The guideline also stresses appropriate patient education in the preoperative period to lessen the rate of complications. This includes infection prevention, insulin management, beta blocker usage, etc. The guideline also includes patient information indicating questions to ask of the surgeon and preoperative instructions as well as templates for adult and pediatric examination documentation.

High-risk procedures are defined as ones with increased cardiovascular risk for adults and pulmonary risk for children. These include cardiac and thoracic procedures, aortic and major vascular procedures, and procedures greater than 2–4 hours with anticipated large fluid shifts or blood loss. These procedures are not covered in this guideline.

The preoperative evaluation consists of a complete history, including prior problems with anesthesia and risk factors for surgical infection such as smoking history, malnutrition, and chronic skin disease. Also, indications for the planned surgery should be reviewed and other risk factors explored, including possibility of anemia, pregnancy in women, and family or personal history of abnormal bleeding. The examination should focus on vital signs and the cardiac and pulmonary examinations. Pertinent examination related to the planned surgery should also be documented. Abnormal findings may trigger laboratory testing such as checking a complete blood count in someone with a history of anemia or potassium in someone using a diuretic for hypertension.

The next step is an evaluation of anesthesia risk. Testing may be indicated as in Table 1.

The next step is determining if the patient is at high risk of cardiac (adults) or pulmonary/airway (children) complications. Adults with a myocardial infarction (MI) in the last 30 days with
The Teaching PHYSICIAN

Preoperative Evaluation
continued from page 3

post-MI risk stratification deemed to be high risk or within 3–6 months and no risk stratification performed, decompensated congestive heart failure, significant arrhythmia, severe uncontrolled hypertension, severe valvular disease, congenital heart disease, severe or symptomatic pulmonary disease, poorly controlled symptomatic diabetes, or symptomatic anemia are all considered high risk and are excluded from this guideline.

All stable medical conditions must also be addressed prior to the planned surgery. Most importantly, beta blockers should be continued if the patient is on them preoperatively and should be initiated in patients undergoing vascular surgery if they have had a positive stress test. If initiating preoperatively, they should be started at least 2 weeks prior to the surgery and continued for at least 1 month after the surgery. Coronary stent placement and antiplatelet therapy are addressed as is perioperative antibiotic prophylaxis. Diabetes management and encouragement of smoking cessation are also addressed.

Table 1
Evaluation of Anesthesia Risk

<table>
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<th>Test</th>
<th>Consider performing if:</th>
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| Electrocardiogram     | • No electrocardiogram within last year in patients (regardless of age) with history of diabetes, hypertension, chest pain, congestive heart failure, smoking, peripheral vascular disease, inability to exercise, or morbid obesity.  
  • At time of preoperative evaluation, patient has any intercurrent cardiovascular symptoms or signs and symptoms of new or unstable cardiac disease. |
| Coagulation studies   | • Patient has a known history of coagulation abnormalities or recent history suggesting coagulation problems or is on anticoagulants.  
  • Patient needs anticoagulation postoperatively (where a baseline may be needed). |
| Hemoglobin            | • Patient has a history of anemia or history suggesting recent blood loss or anemia.                           |
| Potassium             | • Patient is taking digoxin, diuretics, ACE inhibitors, or angiotension receptor blockers.                      |
| Chest X ray           | • Patient has signs or symptoms suggesting new or unstable cardiopulmonary disease.                           |
| Pregnancy test        | • Patient is of child-bearing age and  
  a. is sexually active, and history suggests possible pregnancy, eg, delayed menstruation, or  
  b. patient is concerned about possible pregnancy, or  
  c. the possibility of pregnancy is uncertain. |
Preoperative Evaluation
continued from page 3

Preoperative instructions include avoiding shaving of the involved area and cleansing the site the night before or morning of surgery either with soap and water or 2% chlorhexidine depending on the planned procedure. Preoperative fasting recommendations are reviewed utilizing the 2, 4, 6, 8 rule. Patients should avoid all clear liquids for at least 2 hour prior to the procedure, no breast milk for at least 4 hours prior to the procedure, no formula or light meals such as toast and clear liquids for at least 6 hours prior to the procedure, and no fried or fatty foods for at least 8 hours prior to the procedure.

The patient will be reassessed the day of the procedure by the anesthesia and surgical team, and all risk factors will be reviewed. Patients found at any time to be at high risk for the proposed procedure or anesthesia fall outside this guideline.

The resources in the guideline are beneficial and can be utilized in the appropriate preoperative assessment of all patients over the age of 2 years.

Reference

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POEMs for the Teaching Physician

Tiotropium Added to Steroids Is Effective in Poorly Controlled Adult Asthmatics

Clinical Question: What is more effective in a poorly controlled adult with asthma: doubling the steroid, adding tiotropium, or adding salmeterol?

Study Design: Cross-over trial (randomized)

Funding: Government

Allocation: Uncertain

Setting: Outpatient (any)

Synopsis: In this study, the authors identified 210 nonsmoking adults with asthma and a forced expiratory volume in 1 second (FEV1) of at least 40% of normal. Patients had a run-in period during which adherence to therapy and response to low-dose steroids (beclomethasone 80 mcg twice daily) was evaluated. (Note that 80 mcg is twice the lowest recommended dose.) Those who were adherent and who had inadequate control (FEV1 40% to 70% of normal, symptoms 6 days a week, rescue inhaler use 6 days a week, or nighttime awakening at least twice a week) entered the crossover trial. There were three 14-week treatment periods, separated by 2-week washout periods during which patients only received the low-dose steroid. During each treatment period, patients received one of the following three protocols: low-dose steroid plus tiotropium 18 mcg every morning, low-dose steroid plus salmeterol 50 mcg twice daily, or a double dose of beclomethasone (160 mcg twice daily). Allocation was appropriately concealed, placebo inhalers were used, and outcome assessors and patients were masked to the intervention. The group was ethnically diverse, and 67% were women; the mean age was 42 years. The addition of either tiotropium or salmeterol was superior to doubling the steroid dose for patient-oriented outcomes like symptoms scores and rescue inhaler use and for physiologic measures of lung function. A noninferiority analysis found no difference between salmeterol and tiotropium. The study was not powered to detect differences between groups regarding the number of asthma exacerbations. Hospitalizations and serious adverse events were rare and similar between groups, as was the use of rescue medications.

Bottom Line: The addition of tiotropium 18 mcg once in the morning is a therapeutic option for adults with asthma not well controlled by low-dose corticosteroids. (LOE=1b)


LOE—level of evidence. This is on a scale of 1a (best) to 5 (worst). 1b for an article about treatment is a well-designed randomized controlled trial with a narrow confidence interval.

Mark Ebell, MD, MS, Michigan State University, Editor

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Evidence-based Answer

Several ablative therapies are effective. However, endovenous laser ablation (EVLA) has a higher 5-year success rate than surgical stripping, ultrasound-guided foam sclerotherapy (UGFS), and radiofrequency ablation (RFA). EVLA is also associated with less postoperative pain and results in a faster improvement in health-related quality of life when compared with surgery (SOR A, based on a meta-analysis). Compression stockings are not as effective as ablative therapy (SOR A, based on a meta-analysis).

A systematic review of the effectiveness of EVLA, surgical stripping, UGFS, and RFA included 64 studies with a total of 12,320 limbs assessed and an average follow-up of 32 months. Of the 64 studies, 30 assessed EVLA, 13 assessed stripping, 10 assessed UGFS, and 19 assessed RFA.

Over a 5-year period, the success rates for surgical stripping, UGFS, and RFA were 75.7% (95% CI, 67.9–82.1), 73.5% (95% CI, 62.8–82.1), and 79.9% (95% CI, 59.5–91.5), respectively, compared with 95.4% (95% CI, 79.7–99.1) for EVLA. In a comparison of modalities, EVLA was superior to UGFS (adjusted odds ratio [AOR]=1.02, 95% CI, 0.28–1.75, \(P=0.013\)), RFA (AOR=0.71, 95% CI, 0.15–1.27; \(P=0.016\)), and surgical stripping (AOR=1.13; 95% CI, 0.40–1.87; \(P=0.006\)) after adjusting for follow-up time.\(^1\)

Based on these findings the authors concluded that EVLA was superior to the other treatment modalities, especially when compared with surgery, because it is a less invasive procedure, and patients experienced a faster improvement in their health-related quality of life. In addition, EVLA was associated with less postoperative pain than surgery.\(^1\)

A 2006 Cochrane review of 17 RCTs (total n=3,300) compared injection sclerotherapy, graduated compression stockings, and observation for the treatment of varicose veins. No significant difference was noted in outcomes among the different sclerosing agents, whether liquid or foam.\(^2\)

One reviewed study found no difference in cosmetic appearance or symptoms (defined as pain, burning aching, or itching) with short-term versus long-term use of bandages (RR=0.86; 95% CI, 0.69–1.08). Another reviewed RCT, with 101 people, compared use of sclerotherapy or graduated compression stockings during pregnancy. The authors of that study found sclerotherapy to be superior to compression stockings (RR=1.61; 95% CI, 1.19–2.18) in both symptomatic improvement and cosmetic appearance.\(^2\)

A small RCT compared 95 patients with primary varicosities of the great saphenous vein who underwent either EVLA or stripping. In addition, both groups had a high ligation performed. At 16 weeks, both methods did equally well in terms of surgical success, postoperative pain, and quality of life. EVLA was associated with a delay in return to work compared with stripping, although the difference was not significant (20 versus 14 days, \(P=0.054\)). Postoperative hematomas were smaller after EVLA than after stripping (median hematoma 125 versus 200 cm, \(^2\) respectively; \(P=0.001\)).\(^3\)

References

SOR—strength of recommendation
LOE—level of evidence

Jon O. Neher, MD, University of Washington, Editor

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