Using Electronic Media in Your Training Program

SELECT A SPEAKER BELOW TO SKIP DIRECTLY TO THE PRESENTATION
(SCROLL TO THE TOP OF THE DOCUMENT TO RETURN TO THIS PAGE)

APDVS Electronic Resources Project Update
Kellie Brown, MD, Medical College of Wisconsin, Milwaukee, WI

Electronic References and Textbooks
Max Wohlauer, MD, The Cleveland Clinic Foundation, Cleveland, OH

Teaching Videos
Matthew Eagleton, MD, The Cleveland Clinic Foundation, Cleveland, OH

VESAP
John Eidt, MD, Baylor Heart and Vascular Hospital, Dallas, TX
Amy Reed, MD, Rush University Medical Center, Chicago, IL

VSCORE and SCORE
Raghu Motaganahalli, Indiana University, Indianapolis, IN

Tools of Engagement Project (TOEP)
Roberta Sullivan, University at Buffalo, SUNY, Buffalo, NY

E-curricula and Simulation for Vascular Laboratory Education
David L. Dawson, MD, University of California, Davis, Davis, CA
ELECTRONIC RESOURCES

KELLIE R. BROWN, MD
CHAIR, APDVS ISSUES COMMITTEE
APRIL 2016
ELECTRONIC RESOURCES

• Asked to compile a list of available electronic resources
• Added trainees to the committee
• Looked at several areas:
  • Board Prep
  • RPVI Prep
  • Case Prep
  • VSITE Prep
  • Techniques/Videos
  • Apps
• Sample of convenience
• Had a lot of redundancy
BOARD PREPARATION

- **VESAP**
  - [www.vascularweb.org](http://www.vascularweb.org) (to buy)
  - [www.svsvesap.com](http://www.svsvesap.com) (to log in)
  - $399 for candidate members of SVS

- **Vascularsurgeryreview.com**
  - [www.vascularsurgeryreview.com](http://www.vascularsurgeryreview.com)
  - Website created by Anton Sharapov
  - Free
  - Updated between 2009-2011

- **TrueLearn**
  - [www.truelearn.com](http://www.truelearn.com)
  - **QE exam for General Surgery**
  - $169 for 1 month; $229 for 3 months, $299 for 6 months, $399 for 1 year
BOARD PREPARATION

• Expert Consult
  • www.expertconsult.inkling.com
  • online textbooks with video content
  • Elsevier publisher
  • price varies per book
  • Books mentioned included:
    • Rutherford’s
    • Current Therapy in Vascular and Endovascular Surgery
    • Anatomic Exposures in Vascular Surgery (Wind and Valentine)
    • Clinical Scenarios in Vascular Surgery (Upchurch)

• The Pass Machine
  • www.thepassmachine.com
  • $1,097 for on line course for general or vascular QE, recert
  • $897 for gen surg CE,
  • 100% refund if you don’t pass
RPVI PREPARATION

• Pegasus practice exams
  • https://www.pegasuslectures.com/rpvi_exam.php
  • $744 for fellows

• ARDMS Practice Test
  • www.ardms.org
  • $25 for one exam

• Cleveland Clinic Ultrasound Course:
  • $795 for trainees

• Online Textbooks:
  • www.expertconsult.inkling.com
  • Introduction to Vascular Ultrasonography: Pellerito, Polak
  • Rutherford
  • Moore
  • Introduction to Vascular Ultrasonography: William Zwiebel
RPVI PREPARATION

- ESP Online questions (Edleman) “X-zone”
  - Free to course takers
  - $39: 2 hours, $79: 5 days, $109: for 15 days access

- VESAP (Vascular Lab Sections)

- Mint Medical Video Series/Case Series:
  - [www.mintmedicaleducation.com](http://www.mintmedicaleducation.com)
  - $525 for lecture series
  - $1250 for lecture series and 500 cases

- iSVU: Society for Vascular Ultrasound app
  - $7.99
  - Provides access to guidelines and interpretation criteria for vascular lab studies
CASE PREPARATION

• Pubmed
• Clinical Key
  • www.clinicalkey.com
  • $1,100/year for surgery collection
  • Most libraries have access
• UptoDate
  • www.uptodate.com
  • $200/year or $370/2 years for trainees

• Access Surgery
  • http://accesssurgery.mhmedical.com
  • McGraw-Hill publisher
  • Has online journals, books, videos, cases, questions, quiz competition
  • Most libraries have access
  • Individual subscription $995/year
CASE PREPARATION

• Expert Consult
  • www.expertconsult.inkling.com
  • Elsevier publisher
  • online textbooks with video content
  • price varies per book
  • Books mentioned included:
    • Rutherford’s
    • Moore
    • Current Therapy in Vascular and Endovascular Surgery
    • Atlas of Vascular Surgery and Endovascular Therapy: Anatomy and Technique
    • Anatomic Exposures in Vascular Surgery (Wind and Valentine)
    • Clinical Scenarios in Vascular Surgery (Upchurch)

• SCORE
  • www.surgicalcore.org
  • $500 for the program/$145 per resident
VSITE PREPARATION

• VESAP
  • [www.vascularweb.org](http://www.vascularweb.org) (to buy)
  • [www.svsvesap.com](http://www.svsvesap.com) (to log in)
  • $399 for candidate members of SVS

• VSEP
  • [www.pdwe.com](http://www.pdwe.com)
  • from Canadian Society for Vascular Surgery
  • Currently only in hard copy according to the website
  • $400

• Expert Consult
  • [www.expertconsult.inkling.com](http://www.expertconsult.inkling.com)
  • online textbooks with video content
  • Elsevier publisher
  • price varies per book
  • Books mentioned included:
    • Rutherford's
    • Moore
    • Current Therapy in Vascular and Endovascular Surgery
    • Atlas of Vascular Surgery and Endovascular Therapy: Anatomy and Technique
    • Anatomic Exposures in Vascular Surgery (Wind and Valentine)
    • Clinical Scenarios in Vascular Surgery (Upchurch)
• Endovascular Today Buyer’s Guide app
  • Free
  • Used to identify different endovascular wires/catheters/devices

• JVS app
  • Free
  • Provides access to JVS articles

• SVS iPG:
  • SVS Interactive Program Guidelines app
  • Free
  • Provides access to all SVS practice guidelines

• Inkling
  • Free
  • Expert consult in app form
APPS

• Clinical Key
  • Free
  • App for Clinical Key

• iSVU: SVU interpretation guidelines
  • 7.99
  • Provides guidelines for ordering, performing, and interpreting vascular ultrasound exams

• Gore TEVAR Sizing
  • Free
  • App to help with TEVAR sizing

• ERA Model (EVAR Risk Assessment Model)
  • 6.99
  • Gives predicted outcome and 5 year survival for EVAR given patient characteristics
NEXT STEPS

• Add an open ended question to the annual survey

• How to keep this list up to date?

• Consider on-line forum for trainees to communicate in real time
  • Share things that have worked for them
  • Ask others what has worked
  • Automatically up to date
  • Would need a moderator
Resources

- Electronic textbooks
- Mobile Apps
- University / Hospital Library Website
- UpToDate
- Online review courses
- PubMed
- Electronic-based guidelines
I’m confused. So many choices...
Three Steps for Success

- Choosing a resource
- Access
- Navigation
Choosing a Resource

- Tailor to specific themes
- How to: surgical technique
- Why: concepts and principles
- What’s new: literature review
- Board / VSITE Review
How to:

Total Graft Excision and Extraanatomic Repair for Aortic Graft Infection

Atlas of Vascular Surgery and Endovascular Therapy: Anatomy and Technique

Anatomic Exposures in Vascular Surgery

Fig. 12-10 The fourth portion of the duodenum is mobilized, and the aorta is exposed from the left renal vein to the bifurcation.
Understanding Why:
What's New

PubMed
Surgical Approach to Hemodialysis Access.

Rowse JW, Kirksey L.

Abstract
With the increasing incidence of end-stage renal disease, hemodialysis vascular access presents an ongoing struggle, and a multidisciplinary approach must be considered to provide long-term durable access for patients on chronic hemodialysis. Surgeons must be very thoughtful in planning the steps of access for these patients and consider fistula first and catheter last, without forgetting that prosthetic grafts may be a legitimate first option for patients. This article provides a review of surgical management of dialysis access, including primary access options and follow-up of this difficult patient population.

KEYWORDS: arteriovenous fistula; hemodialysis access; interventional radiology; surgery


Publications Types

LinkOut - more resources

PubMed Commons
Evidence-based and Current

UptoDate
Noninvasive diagnosis of arterial disease

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Section Editors
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Contributor disclosures

All topics are updated as new evidence becomes available and our peer review process is complete.

Literature review current through: Feb 2016. | This topic last updated: Jul 31, 2012.

INTRODUCTION — The evaluation of the patient with arterial disease begins with a thorough history and physical examination, and uses noninvasive vascular studies as an adjunct to confirm a clinical diagnosis and further define the level and extent of pathologic involvement. Vascular testing may be indicated for patients with suspected arterial disease based upon symptoms (eg, claudication), physical examination findings (eg, signs of tissue ischemia), or in patients with risk factors for vascular disease (eg, smoking, diabetes mellitus) or other arterial pathology (eg, trauma, peripheral embolism) [1].

A variety of noninvasive examinations are available to assess the presence and severity of arterial disease. These include segmental limb pressures and the calculation of pressure index values (eg, ankle-brachial index, wrist-brachial index), exercise testing, segmental volume plethysmography, transcutaneous oxygen measurements and photoplethysmography.

Ultrasound is the mainstay for vascular imaging with each mode (eg, B-mode, duplex) providing specific information depending upon the vascular disorder. Other studies frequently used to image the vasculature include computed tomographic (CT) imaging and magnetic resonance (MR) imaging. CT and MR imaging are important alternative methods for vascular assessment, and the time necessary for these studies limit their use for routine testing [2]. Contrast arteriography remains the gold standard for vascular imaging and at times can be a primary imaging modality, particularly if intervention is being considered. Each of these imaging modalities is discussed in detail separately (See "Clinical features and diagnosis of aortic aneurysm").

INDICATIONS FOR TESTING — The need for noninvasive vascular testing to supplement the history and physical examination depends upon the clinical scenario and urgency of the patient’s condition. An exhaustive battery of tests is not necessary to evaluate their vascular status. In general, only tests that confirm the presence of arterial disease or provide critical diagnostic information should be performed.
The management of diabetic foot: A clinical practice guideline by the Society for Vascular Surgery in collaboration with the American Podiatric Medical Association and the Society for Vascular Medicine

Anil Hingorani, MD, Glenn M. LaMuraglia, MD, Peter Henke, MD, Mark H. Meissner, MD, Lorraine Loretz, DPM, MSN, NP, Kathy M. Zinszer, DPM, MPH, FAPWCA, Vickie R. Driver, DPM, MS, FACFAS, Robert Frykberg, DPM, MPH, MAPWCA, Teresa L. Carman, MD, FSVM, William Marston, MD, Joseph L. Mills Sr, MD, and Mohammad Hassan Murad, MD, MPH, Brooklyn, NY; Boston and Worcester, Mass; Ann Arbor, Mich; Seattle, Wash; Danville, Pa; Providence, RI; Phoenix Ariz; Cleveland, Ohio; Chapel Hill, NC; Houston, Tex; and Rochester, Minn

Background: Diabetes mellitus continues to grow in global prevalence and to consume an increasing amount of health care resources. One of the key areas of morbidity associated with diabetes is the diabetic foot. To improve the care of patients with diabetic foot and to provide an evidence-based multidisciplinary management approach, the Society for Vascular Surgery in collaboration with the American Podiatric Medical Association and the Society for Vascular Medicine developed this clinical practice guideline.

Methods: The committee made specific practice recommendations using the Grades of Recommendation Assessment, Development, and Evaluation system. This was based on five systematic reviews of the literature. Specific areas of focus included (1) prevention of diabetic foot ulceration, (2) off-loading, (3) diagnosis of osteomyelitis, (4) wound care, and (5) peripheral arterial disease.

Results: Although we identified only limited high-quality evidence for many of the critical questions, we used the best available evidence and considered the patients’ values and preferences and the clinical context to develop these guidelines. We include preventive recommendations such as those for adequate glycemic control, periodic foot inspection, and patient education.
Accessing Information

- Personal Computer
- Tablet
- Phone
- Work Computer
Welcome, Max!

We've created a library for your eBooks. Read on the web now, or read on the go!

Search My Library

Vascular and Endovascular Surgery: A Comprehensive Review

Atlas of Vascular Surgery and Endovascular Therapy: Anatomy and...

Rutherford's Vascular Surgery

Cleveland Clinic
Amputation Types

Toe and Ray Amputation

Anatomy

There are two phalanges in the first toe and three in each of the remaining four toes (Fig. 118-1). The interphalangeal and metatarsophalangeal joints are hinge joints. Each has an articular capsule and medial and lateral collateral ligaments. The plantar surface of the articular capsule is strengthened to form a fibrous plate, the plantar ligament, which limits toe extension. The flexor hallucis longus and flexor digitorum longus tendons insert on the
Technical Aspects of Conventional Carotid Endarterectomy for Atherosclerotic Disease

Norman R. Hertz

Current Therapy in Vascular and Endovascular Surgery, 60-64

Carotid endarterectomy (CEA) is a conceptually simple but technically unforgiving surgical procedure. Although other factors like patient selection and preoperative antiplatelet therapy also play an important role, a good clinical outcome after CEA probably is related most directly to the technical perfection of the operation itself. Provided they are accurate, data from the Nationwide Inpatient Sample suggest that as many as 90% of the CEAs in the United States were done for asymptomatic carotid stenosis from 2005 to 2007. If for no other reason, therefore, the prevention of technical complications has never been more important. There is more than one way to perform CEA safely, but the following remarks describe the strategy the author adopted during almost 30 years at the Cleveland Clinic.

Surgical Technique

The author has previously reported a personal series of 2262 CEAs, nearly all being done under general anesthesia with routine carotid shunting and, during the last 20 years, patch angioplasty preferentially using the saphenous vein. The principal technical steps of the procedure became standardized (Figure 1).
Navigation

Ask a specific question
Advances in radiology, nuclear medicine, and radiation therapy have led to a dramatic increase in the use of radiation for diagnostic, interventional, and therapeutic purposes. Although radiation exposure from diagnostic procedures is generally low and comparable to natural background doses, therapeutic use of radiation involves a higher level of exposure, which can be harmful if not controlled. Radiation poses risk to workers and patients alike. Cardiologists, radiologists, and vascular and interventional radiologists are particularly at risk from exposure during diagnostic procedures.

Deterministic Effects

Deterministic effects are dose dependent and result in cell death. These are acute events when a threshold level of radiation has been exceeded, and the higher the dose, the greater the injury (Fig. 21-1). The threshold is not absolute and can vary among individuals. Table 21-2 shows some threshold levels of human organs with corresponding deterministic effects. Doses required to produce deterministic effects are often large and exceed 1 to 2 Sv. Symptoms arise when a significant proportion of cells are killed by radiation, and subsequent inflammation or fibrosis may produce additional damage to the organ. Examples of deterministic effects include radiation dermatitis, cataracts, infertility, and organ atrophy or fibrosis (Figs. 21-2 and 21-3).
Search: deterministic effects

Biologic Effects of Radiation

Biologic Effects of Radiation. Ionizing radiation damages living cells, which can repair themselves, die, or undergo a mutation. The effects of radiation on biologic tissue are generally classified as two types: deterministic effects and stochastic effects.

Deterministic Effects

Deterministic effects are dose dependent and result in cell death. These are acute events when a threshold level of radiation has been exceeded, and the higher the dose, the greater the injury. (Fig. 21-1). The threshold is not absolute and can vary among individuals. Table 21-2.
Road Ahead: Create or Consolidate?
Anatomy of the thoracic outlet

The thoracic outlet refers to the confined space between the clavicle and first rib. Structures that pass through this region include the nerves of the brachial plexus, the subclavian artery and subclavian vein.
Atlas of Vascular and Endovascular Therapy
Conclusions

- Many resources available
- Challenge for trainee is often filtering content rather than finding content
- APDVS consolidate resources vs. create a new curriculum?
- How to keep content current?
Using Electronic Media in Your Training Program:

Teaching Videos

Matthew J. Eagleton, MD
Director, Vascular Surgery Training Programs
Cleveland Clinic Lerner College of Medicine – CWRU

Association of Program Directors in Vascular Surgery
Chicago, IL
April 1, 2016
WARNING!!!!

VIDEO FLASHBACK
Incorporation of Video into Surgical Education

• Multiple opportunities to utilize this media
  — Self-directed study
  — Review of surgical procedures
    — Preparation for routine cases
    — Review of uncommonly performed procedures
  — Didactic lectures
    — Primary source of information
    — Supplement ongoing curriculum
  — Learn to use/apply new technology
Availability of Video Resources

• Primarily available on-line (YouTube)
  —If going to use this, the information should be vetted

• Increasingly see videos incorporated as on-line supplements associated with textbooks

• “Professional” websites provide these

• Many “Institutional” videos becoming available
  —Many of these are directed towards patients and not towards surgical trainees
Videos of Surgical Procedures

This page provides links to prerecorded webcasts of surgical procedures. These are actual operations performed at medical centers in the United States. Please note that you cannot send in questions by email, though the webcast may say that you can, because you are not seeing these videos live.

The videos are in Flash format. You will need Flash Player to view the programs. You can download Flash Player for free at www.adobe.com/products/flashplayer.

The videos open in a second window. If you have a pop-up blocker, you will need to disable it to view the programs.
Surgical Procedure Education

- 2012 study – volume of procedures available on-line
- Reviewed 9 specialties
- Evaluated number of videos/procedure available by specialty
  - OMFS – highest number (876 videos/procedure)
  - Urology – lowest number (35 videos/procedure)

Example of Case/Procedure Based Video
Example of Case/Procedure Based Video
Trainee-Directed Teaching Cases
Didactic Lecture Series Incorporation

- Used by several Orthopedic Fellowship programs (ie. Shoulder/Elbow Fellowship)
- Very helpful for those programs with small number of faculty and small number of fellows
- Weekly on-line didactic lecture
- Available to the trainee afterwards for review
Possible Benefits

• Standardize curriculum nationally

• Taught by national/international experts on the topic (not just regurgitation of a textbook chapter)

• Opportunity to interact and ask questions from these leaders

• Opportunity to invite groups of leaders to have an “academic discussion” with the trainees

• Availability to review again at later time points

• May gain even more knowledge if “local” proctor or mediator present to field questions afterward
What is Vascular Surgery doing?

• Individual institution videos are available

• Society for Vascular Surgery-sponsored YouTube videos
  – VAM presentations
  – Interviews with leaders
  – Patient-related information
SVS-sponsored YouTube
What is Vascular Surgery doing?

• Education Council is working to develop video-based curriculum
• Directed towards vascular surgical trainees
• In the very early planning stages
Thank you
VESAP

- VESAP 3 expires Sept 2, 2017
- 10 modules – 550 items
- 7.5 AMA Cat I CME each module
- 90 hours of CME every three years (60 self assessment)
VESAP3

- Reed – new editor
- Modrall – new editor
- Mitchell
- Starnes
- Sidawy
- Hodgson – old editor

- Dawson
- Rockman
- Eagleton
- Cull
- Comerota
- Eidt – older editor
CURRENT STATUS

- High evaluations
- Good value
- Time efficient
- Improved Board Scores

- Server downtime
- Password issues
- ? Relationship to QE
INTEGRATING VESAP INTO YOUR PROGRAM

- Self-study
- Weekly VESAP conference
- Board review dinner meeting
VESAP 4

Co-editors
Greg Modrall, MD
Amy Reed, MD
VESAP 4

- Increased integration and collaboration with Rutherford writers

- New software platform, Hypix Media, Inc (SESAP vendor for past 10 years)

- iPad app
  - Sync between app and laptop/desktop
  - Use without Wi-Fi
VESAP 4
Section editors

1. Cerebrovascular – Wei Zhou
2. Upper Extremity – Matt Corriere
3. Renal Mesenteric – Vince Rowe
4. Aortoiliac Disease – Ravi Rajani
5. Vascular Diagnosis – Dave Dawson
6. Dialysis Access – Ellen Dillavou
7. Venous Disorders – Faisal Aziz
8. Radiation Safety – Melissa Kirkwood
9. Vascular Medicine – Sunita Srivastava
10. Lower Extremity – Andy Schanzer
VESAP 4

Coming to you in September 2017!
V-SCORE
SCORE

Raghu Motaganahalli
Associate Professor
Indiana University School of Medicine
The Surgical Council on Resident Education (SCORE®) is a nonprofit consortium formed in 2006 by the principal organizations involved in U.S. surgical education, including the ABS.

Mission: To improve the education of residents in general surgery and related specialties through the development of a national curriculum.
SCORE CONTENT

• Educational content delivery through SCORE portal.
• Curriculum is designed to define the specialty of general surgery and provide greater assurance that residents are receiving sufficient training in all areas.
• Focuses on 5 years of progressive education and training incorporates ACGME core competencies.
**My Activity**

**This Week In SCORE Progress**

Current Topic

Week 40 - Systems-Based Practice, Part 4 of 4

[More...]

**Reports**

**Indiana University Medical Center**
- 78 residents
- 10 instructors
- 32 active assignments

Run a report:
- Program Roster
- All Assignments
- Program Usage
- Residents' Assignment Status
- Residents' Personal Progress

**News & Announcements**

**SCORE News**

2016 Surgical Education Week (3/20/2016)
Will we see you in Boston? SCORE will be at Surgical Education Week in Boston...

New and Updated Modules (3/7/2016)
We continue to add new modules and update existing ones. Take a look below at...

TWIS for March (3/4/2016)
TWIS for March kicks off this Sunday, starting with week 2 of a two-week...

[More SCORE News >]

**Program Announcements**

Residents can now track personal progress separate from assignments (3/21/2013)
Your assignments and personal progress each have their own tracking tools now, so you can...

[More Program Announcements >]
<table>
<thead>
<tr>
<th>Week Starting</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>40</td>
<td>Systems-Based Practice, Part 4 of 4</td>
</tr>
<tr>
<td>March 27, 2016</td>
<td></td>
</tr>
<tr>
<td>41</td>
<td>Abdominal Trauma, Part 2 of 2</td>
</tr>
<tr>
<td>April 03, 2016</td>
<td></td>
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<tr>
<td>42</td>
<td>Vascular Access</td>
</tr>
<tr>
<td>April 10, 2016</td>
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<td>43</td>
<td>Patient Safety and Outcomes</td>
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<td>April 17, 2016</td>
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<tr>
<td>44</td>
<td>Pediatrics, Part 3 of 4</td>
</tr>
<tr>
<td>April 24, 2016</td>
<td></td>
</tr>
</tbody>
</table>
Vascular Access

Overview: Five modules covering vascular access are included in the topic for this week. All modules are classified as 'core' representing an opportunity for more junior residents to engage in focused learning and more senior residents to demonstrate mastery of the material. The TWIS quiz of the week covers the range of topics included in this week's focus.

### Modules

| Venous Access Devices - Insertion | Core |
| Venous Access for Long-term Therapy | Core |
| Percutaneous Vascular Access | Core |
| Arteriovenous Graft/Fistula | Core |
| Vascular Access for Dialysis | Core |

### Weekly Quiz

Quiz not available until 04/08/2016.
Each Module- “One stop learning environment “

- Learning Objectives
  - Anatomy/Physiology
  - Diagnosis/Presentation
  - Treatment options
  - Operative procedures
  - Non operative measures
  - Long term outcome/Follow up

- Core and Advanced modules
- Open ended questions
- Self Assessment
- Reference text/article
• How can we use it for our trainees
  • Assign modules for learning
  • Self assessment quiz from 2000 question collection
  • Modules classified under ACGME core competencies
  • Tool for milestones evaluation
  • Text books, Video, Journal club, EBM resources
INTEGRATING SCORE INTO RESIDENT CURRICULUM
INTEGRATING SCORE INTO RESIDENT CURRICULUM

Vascular Surgery

Home
eBooks
Databases
Evidence Based Resources
Journals
Organizations
Patient Education Resources

ACCESS SURGERY

The Ruth Lilly Medical Library is now subscribing to AccessSurgery, which includes essential surgery textbooks, videos, Case Files, Self Assessment, Drug Guide and much more.

- AccessSurgery

SCIENTIFIC AMERICAN SURGERY

ACS Surgery has changed its name to Scientific American Surgery.

It includes evidence-based resources featuring surgical best practices.

UpToDate

- UpToDate

UpToDate is a clinical decision support system that helps clinicians throughout the world provide the best patient care. We use current evidence to answer clinical questions quickly and easily at the point of care. This saves clinicians time, improves outcomes and lowers health care costs.
INTEGRATING SCORE INTO RESIDENT CURRICULUM

SCORE

Curriculum tools for residents

Search the Literature - Key Databases

**PUBMED MEDLINE** (with links to Medical Library journals) - Medical literature directly from the National Library Medicine. Use the VPN while off campus.

**OVID MEDLINE** - Medline data on Ovid software

Additional Databases

**EMBASE** - Medical database complementary to Medline

**SCOPUS** - All-sciences database

**WEB OF SCIENCE** - All-sciences database. Also searches for cited references.

**ENGINEERING VILLAGE** - Covers biomedical engineering, surgical instrumentation & devices, etc.

**GOOGLE SCHOLAR** - To access the links to medical library journals use the VPN while off campus.

Ovid Medline Searching Tips

- Start by being specific. If searching for surgery of the kidney cortex, then search that term, exp. *Kidney Cortex*, than add the subheading "surgery"
• V-Score
  • Learning resource for Vascular surgery trainees
  • Original amalgamation of the VSB question bank, potential modules were proposed by Drs. Mills, Eidt, Rhodes, Black, Gahtan
  • Orginal outline had 300 modules across now pruned to 147 modules
    • Disease/Condition
    • Operative procedures
  • 27 modules available so far
V-SCORE : EXISTING MODULES

- Acute Aortic Dissection
- Acute mesenteric ischemia
- Acute lower extremity ischemia
  - Aortic saddle/Cardio embolic/Graft thrombosis/thrombosed popliteal aneurysm/vascular devices
- Aorto bi femoral bypass
- Carotid subclavian bypass
- Asymptomatic carotid stenosis
- Symptomatic Carotid stenosis
- Carotid stenting
- Diabetic foot
- Fem-Pop Embolectomy
V-SCORE : EXISTING MODULES

- Infra renal AAA
- Intermittent Claudication
- Ischemic Steal syndrome
- Popliteal-Tibial bypass
- Popliteal artery injury
- Ruptured AAA
- TEVAR
- Thoracic outlet syndrome
  - Infra clavicular approach
  - Transaxillary approach
Tools of Engagement Project (TOEP)
On-demand Discovery Learning Professional Development

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Online Learning Specialist
Center for Educational Innovation
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Association of Program Directors in Vascular Surgery (APDVS)
Chicago, IL
April 1, 2016
The Goal of **TOEP**: To encourage faculty to *explore* & *reflect* on the use of freely-available emerging technology tools to expand tech-infused pedagogy.

Image source: Deviant Art
What is TOEP?

Professional development to expand tech-infused pedagogy

<table>
<thead>
<tr>
<th>Online</th>
<th>Focused</th>
</tr>
</thead>
<tbody>
<tr>
<td>On-demand</td>
<td>Discovery Learning</td>
</tr>
<tr>
<td>Convenient</td>
<td>Social-network</td>
</tr>
</tbody>
</table>
The Problem:

Today’s Learners

versus

Yesterday’s Teaching Methods
The Solution: TOEP

Image source: Deviant Art
Underlying Principles of TOEP

- Lifelong Learning
- Keeping pace with technology’s evolution
- Learning how to find your own solutions
The Changing Face of Bloom’s

Old Version

Knowledge
Comprehension
Application
Analysis
Synthesis
Eval.

New Version

Remembering
Understanding
Applying
Analysing
Evaluating
Creating
“Three Rs”
(Reading, Writing and Arithmetic)

“Four Cs of 21st Century Skills”
(Communication, Collaboration, Creativity, and Critical thinking)
More time available for problem-solving, collaboration, & other activities

Image source: Saint Louis University
Web 2.0 Technologies
Let’s take a tour. [http://suny.edu/toep](http://suny.edu/toep)

Then the Tools of Engagement Project (TOEP) is just what you need!

Explore and reflect on innovative and creative uses of online instructional technologies through a set of hands-on, self-paced, discovery activities.

The TOEP community provides a safe and supportive environment to work alongside peers and to reflect on how these emerging technology tools may impact teaching and learning.

Watch this video to get introduced to TOEP.
Photo Sharing

"A picture is worth a thousand words." One of the benchmarks of universal design for learning calls for instructors to present content in different ways to meet the diverse needs of learners. Adding a visual representation of a concept can help students understand and retain information. Images can support, embellish and add detail to a lesson. Sharing photos from third party sources, from your own collection, or asking students to share images they've found are great ways to enhance lessons and assignments.

Photo Sharing in Teaching and Learning

"A picture is worth a thousand words." Take advantage of the power of photos and images in your courses. Images can be used to enhance both face-to-face and online courses.

Photo sharing can be an instructor task to help engage students and improve their retention, or it can be assigned to the students through projects where they share photos with the instructor or the whole class. Projects will engage students in the material and, depending on the subject, bring experiential learning elements into the classroom that might not otherwise be there.
Discovery Exercise

Choose either **Option 1 or 2** below, depending on your current knowledge/practice and interest.

**Option 1: Explore presentation created by others**

1. Explore some of the sites listed above, then locate a relevant presentation; suitable to use in an instructional situation your discipline.
2. Write a post in the **TOEP Community** about how you would use the presentation in instruction. In your post, include a link to the online presentation you have found.

**Option 2: Create or upload your own presentation**

1. Challenge yourself further and create a presentation online or upload an already existing presentation, using the tool of your choice.
2. Write a post in the **TOEP Community** about the tool you selected and whether you would recommend it, as well as whether you have or would like to use these types of tools in the classroom. In your post, include a link to your online presentation.

**Now, Request Your Badge!**

Complete the [badge request form](#) to earn your **TOEP Presentations Badge**. To earn this badge, complete the Discovery Exercise above. You will need to include a URL of the presentation that is relevant to you in instruction (as completed in option 1 of the Discovery Exercise above or the URL of the presentation you created or shared in option 2).

**What Does the Research Say?**

Most often used words in TOEP Community!
Presentation Tools
Collaboratively develop, present, & share ideas.

Office
Google Presentations
Prezi
Slideshare
Photo Sharing

Find images to enhance course content
Build personal photo collections
Use web-based image editing tools
Highlight and annotate images
Learn about Creative Commons

Copy portions of a computer screen

Snipping Tool / Windows or Screengrab / Mac

Video created by Amanda Dills, Oklahoma City University
Mobile Apps

Padagogy Wheel

Mobile apps mapped to Bloom's Taxonomy and the SAMR Model of technology integration

Click on the link to the Padagogy Wheel on the TOEP site, which contains links to embedded apps.
Audio
Stay informed through Podcasts.

KeyLIME Podcast
Key Literature in Medical Education
Royal College of Physicians and Surgeons of Canada
http://keylimepodcast.royalcollege.ca
Video

Flipped Learning:
Deliver content online to free up time for active learning

Web-based video editors:
Record & create videos

Screencasting:
Record computer screen and/or webcam

Image source: WeVideo
Collaboration Spaces
Connect anytime/anyplace with students, colleagues & guest experts.

Hangouts

VoiceThread
Social Bookmarking & Citation Management

Collaboratively organize and save web-based resources for future use.
Study Apps used by Medical Students - Survey Results

- USMLE World ("Qbank Mobile")
- Epocrates app
- Pathoma
- MedCalc
- Doctors in Training (DIT)
- Visible Body 3D Human Anatomy Atlas
- Picmonic
- Firecracker
- Osmosis Med
- First Aid Q&A app

Image source: Picmonic & Visible Body 3D

Compiled by Steven Gangloff - UB Med student. Many have associated fees.
Highlights from survey data

85% of respondents reported that the activities in TOEP helped them learn about the tools and their utility.
What if I am not from a **TOEP participating campus**?

Anyone may complete **TOEP** activities

- You will not be able to:
  - Join the **TOEP** Google+ Community
  - or earn incentives
Tools of Engagement Project (TOEP)

Q&A

Contact Roberta (Robin) Sullivan rrs@buffalo.edu
or the TOEP Team at toepsuny@gmail.com
State University of New York at Buffalo

Slides for today’s presentation are available at:

http://suny.edu/toep
E-curricula and Simulation for Vascular Laboratory Education

Using Electronic Media in Your Training Program

David L. Dawson, MD
University of California, Davis
Sacramento, CA
Disclosures

• Royalties
  – Pegasus Lectures
  – VESAP (section editor)
  – Wolters Kluwer (Strandness 5th edition co-editor)

• Relationships
  – Intersocietal Accreditation Commission – Vascular Testing (Director)
  – Society for Vascular Ultrasound (Director)
  – Joint Review Committee on Education – Diagnostic Medical Sonography (Director)
  – Alliance for Physician Certification and Advancement (Council member)
  – American College of Surgeons – Accreditation Committee for Accredited Educational Institutes (committee member, vice chair standards revision)
Overview

• Drivers
  – Requirements for programs and learners

• Available electronic curriculum resources

• Simulation for vascular laboratory education
Vascular Laboratory Education
Requirement: Facility Accreditation

II.D.2. The facility used to provide residents with experience in interpretation of non-invasive vascular laboratory testing must be accredited by a recognized organization that would allow residency or fellowship graduates to fulfill the requirements of eligibility for specialty board certification.

II.D.2.a) The laboratory should be currently accredited in extracranial cerebrovascular, peripheral arterial and peripheral venous testing, and should have substantial experience in abdominal and visceral vascular imaging.

II.D.3. In the absence of accreditation of all testing modules (i.e. venous, arterial, cerebrovascular, visceral) substantial experience in each testing modality must be demonstrated, and full accreditation in all modules achieved within two years from the time of the most recent annual program update.
Vascular Laboratory Education Requirement: RPVI for VSB-ABS

• Registered Physician in Vascular Interpretation (RPVI) required by American Board of Surgery to be eligible for Vascular Surgery Qualifying Examination (QE)
  – American Registry for Diagnostic Medical Sonography (ARDMS)

• Effective January 2016, Inteleos is umbrella organization to the ARDMS and new organization to manage physician examinations:
  – Alliance for Physician Certification and Advancement (APCA)

http://www.absurgery.org
Current PVI Exam Prerequisites

• Accredited residency or fellowship that includes didactic and clinical vascular laboratory/ultrasound interpretation experience as an integral part of the program

• Documented interpretation experience with a minimum of 500 vascular laboratory studies
  – Requirement clarified by ARDMS in 2014
  – All 500 required studies must have been completed as an interpreting physician in clinical diagnostic setting
  – “Cram courses” not accepted as substitute for clinical experience

Until June 2016, status verification and secure login continue through ARDMS site: www.ARDMS.org
Alliance for Physician Certification and Advancement (APCA)

Revised (2017) PVI Exam Prerequisites

• Organization of curriculum not specified for accredited programs
  – Intended to offer flexibility to program directors

• For non-accredited programs:
  ≥48 weeks of clinical training
  ≥30 hours of didactic instruction relevant to interpretation and other vascular laboratory topics
  ≥40 hours of observation or supervised participation in a vascular laboratory
Vascular Laboratory Didactics

• Electronic media
  – Electronic references and textbooks
  – Teaching videos
  – VESAP
  – VSCORE and SCORE

• On-line curricula
  – National Educational Curriculum for Sonography

- Entry-level instruction
- Review
- Reference
- Background

- Topic list only
<table>
<thead>
<tr>
<th>Provider</th>
<th>General Information</th>
<th>Online didactic lectures</th>
<th>Competency-based progression</th>
<th>Mock exam simulation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gulfcoast Ultrasound Institute</td>
<td>CME programs, webinars, review courses, and hands-on training in multiple disciplines, including vascular ultrasound</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Institute for Advanced Medical Education (IAME)</td>
<td>Live CME programs (Current Practice of Vascular Ultrasound) and on-demand access to selected recorded lectures</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Mint Medical Education</td>
<td>Live 3-day course or online learning options, including case review</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Navix</td>
<td>Navix provides diagnostic imaging services to hospitals and other sites. The company also offers programs training interpretation of vascular ultrasound studies, both in attendance or with onsite courses.</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Pegasus Lectures</td>
<td>Pegasus Lectures offers an online course produced in collaboration with the Society for Vascular Surgery and Society for Vascular Ultrasound with a combination of didactic lectures, case interpretation sessions and review.</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Philips Learning Connection Online Learning Center</td>
<td>Website offers access to educational materials related to many imaging modalities, including ultrasound</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>
UC Davis Vascular Lab Curriculum

• Practicum sessions with vascular technologists
  – Ten 4-hour sessions with defined learning plan
• Pegasus Lectures* ($415 for each fellow/resident)
  – RPVI Vascular Specialty eCourse
    • 20 hours of core concepts and focused review sessions
    • Integrated case interpretation to simulate test questions
    • Quiz modules with multiple cases and questions
  – RPVI Vascular Physics eCourse
    • 21 hours of core concepts and focused review sessions
• Interpretation of clinical studies
  – Direct and indirect supervision

*Disclosure: Contributor/royalties

Appendix 2: Vascular Laboratory Education and Training
Examination “Simulation”

• Pegasus Lectures RPVI™ Exam Simulation online (SVS and SVU co-branded)

• Two 4-hour practice exams following the content outline and structure of PVI exam
  – Test mode: each exam can be taken up to eight times
  – Review mode: unlimited access to review which displays test questions, answers selected, correct answers, and detailed explanation

• Interactive tutorial on test-taking strategies
  – Following completion of each exam attempt: analysis topic and subtopic performance
  – Keystroke information captured on practice exams; reviews test-taking habits
  – Time spent on each question is analyzed

• Identifies and targets areas of weakness to focus study time

• Licensed for individual use: $350.00*

*Disclosure: no relationships
Alliance for Physician Certification and Advancement (APCA)

Revised (2017) PVI Exam Prerequisites

• Minimum of 500 cases interpreted
  – Minimum of one month
  – Within preceding 36 months of application submission
  – Cases distributed over all testing areas

• Up to 100 cases may be didactic or simulated, presented and interpreted in a format equivalent that encountered in clinical diagnostic setting
Alliance for Physician Certification and Advancement (APCA)

Simulation of Case Interpretation

• Structure and presentation of simulated cases must be generally equivalent to clinical cases, including:
  – Indications and relevant clinical information presented to interpreting physician
  – Complete technical information for examination provided, including images, cine loops, worksheets, and sonographer notes
  – Report created in format that meets IAC Vascular Testing Standards and Guidelines, compliant with requirements for clinical documentation and billing
  – Feedback from an educator or supervisor
  – Time to complete not less than required in clinical setting
  – Case details available for audit
Sonography Simulation

• Point-of-care ultrasound increasingly important for diagnosis, procedure guidance

• Ultrasound phantoms and simulators are useful for skill/task training and evaluation

• Resources for simulation centers, not individual residency/fellowship programs

• No ACGME or ABS requirement for scanning skills
Summary

• Electronic curriculum and online resources available
  – Self-paced learning, accessed when convenient for learner
  – Learner progress and performance can be tracked
  – Costs may be offset reduced faculty time for preparation and didactic instructions

• Simulation may substitute for up to 100 of the cases prerequisite for the PVI examination, effective 2017