Diagnostic Medical Sonography

CAAHEP ANNUAL MEETING 2016

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Imaging

• Sonography, better known as ultrasound uses high frequency sound waves to create images of internal structures to assist in diagnosis, treatment, and clinical management.

• In its primitive era, technology limited its uses, but over the past 40 years significant changes have occurred which has greatly expanded the role of ultrasound imaging, which I will share with you.

• With the technological advances, ionizing radiation concerns, and being a more cost effective imaging modality, robust growth has occurred. However, along with the growth, also brings unresolved challenges.
Sonography

Diagnostic (traditional users)
- Abdominal/superficial structures
  - OB/GYN
  - Cardiac
  - Vascular

Point of Care (non-traditional users)
- Invasive/therapeutic guidance
  - Needle biopsies
  - Fluid drainage
  - Musculoskeletal
- Emergency room
  - Midwives
  - Labor and delivery
  - Nerve anesthesia
Where are sonographers employed?

SDMS Sonographer Survey 2015

SDMS Educator’s Survey 2015
Where is the significant growth over the past decade?

Diagnostic

Abdominal/superficial structures
OB/GYN
Cardiac
Vascular
Diagnostic

- Superficial Structures
  - Breast Sonography
    - Over the past 10-15 years, sonography plays a primary and collaborative role in breast imaging.
    - Majority of breast biopsies are performed using ultrasound guidance.
      - Allows for live visualization of lesion and needle.
    - Breast Density Notification Law
      - Increase in volume of patients who have fibrocystic changes as mammography can be limited in visualizing lesions within the dense tissue.
States with Breast Density Notification Laws (July 2015)

Diagnostic

- Obstetrical sonography – once performed predominately in a radiology department, then moved to an OB/GYN office and current is high volume in Maternal Fetal Medicine (Perinatology) centers.
  - Technology has greatly enhanced the anatomical structures seen; therefore, there is an expectation that most all congenital anomalies will be detected in utero
  - Growth of fetal echocardiography (visualization of fetal heart)
    - Performance of fetal echocardiography is often shared between OB sonographers and Pediatric Echocardiographers.
Musculoskeletal

• The role of sonography in musculoskeletal is rapidly growing.
• The advantage over MRI is sonography is dynamic and allows for freedom of movement during imaging.
• Performance occurs in a diversity of specialties to include, but not limited to:
  • Radiology
  • Orthopedics
  • Sports Medicine
  • Chiropractic
Collaboration

- We are fortunate to have a large network of organizations to collaborate for the best interests of the profession. Over the past two years, two major documents underwent review and revision to reflect current practice.

- **Scope of Practice**
  - Sixteen organizations participated in the process. Seventeen organizations have either endorsed or supported.

- **National Education Curriculum**
  - First created in 2008 with copyright signed off to the JRCDMS, over the past two years, the document has underwent review and revision. The JRCDMS has sent the final document out to fifteen sponsoring organizations for endorsement or support.

- Both documents are valuable to the clinical sonographer, educator, and student.
Unresolved Challenges

- Lack of entry level education requirements
- Lack of national certification requirements
  - Certification requirements
    - Employer driven
    - Lab accreditation
      - Variation amongst the organizations that offer lab accreditation
- State licensure
  - Oregon, North Dakota, New Mexico
- Clinical education affiliates
Thank you to all the sponsors through their commissioners and board members that make both CoA’s successful.

We can’t do it without you!

Programmatic Accreditation
CAAHEP

JRCDSMS
- General (AB, Superficial structures, OB/GYN)
- Vascular
- Adult Echocardiography
- Pediatric Echocardiography

JRPCVT
- Adult Echocardiography
- Pediatric Echocardiography
- Vascular Technology
- Invasive Cardiovascular Technology
- Cardiac Electrophysiology
Glimpse of education levels of sonographers

**Clinical Sonographers**

What is the highest level of education you have completed?

*base: 15,389 sonographers*

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**Educators**

What is the highest level of education you have completed?

*base: 580 sonography educators*

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Education and National Certification

• Evolution of education from on-the-job training to formal programs
  • For entry into the profession, the most common pathway is a formal education program in at least one concentration.
  • On-the-job training continues to occur in different specialties beyond the entry level concentration(s). Sonographers are eligible to sit for national certification exams in other specialties without additional formal education.

• Three organizations offer credentials
  • Overlap in some specialties as noted in the same colors on the following slide.
  • Various educational pathways are accepted to apply for exams.
Continuing Education and Recertification

- Continuing education is a vital part of the certification process, but more important for patient care.

- Coming in 2019:
  - ARDMS and ARRT are implementing recertification/continuing qualification processes.
  - Final details have not been provided, but anticipate it to be an assessment to identify areas of strength and areas that need further study.

- Be nice to your sonographer in 2018 and beyond while they prepare for multiple recertification exams in our system of testing per specialty.
Hmmm... I wonder what ultrasound will be like when I graduate from high school.