CREDENTIALING REQUIREMENTS AND QUALITY ASSURANCE FOR THE PERFORMANCE OF EMERGENCY ULTRASONOGRAPHY
South Shore Hospital, October 2009

I. Introduction

The present ultrasound coordinator is Wayne Chin who directs with Simon Roy, John Benanti and Jeff Johnson the emergency ultrasound training and credentialing of the attendings of the Department of Emergency Medicine at South Shore Hospital.
It is the primary goal of this committee to obtain emergency ultrasound privileging for at least fifty percent of the emergency medicine attendings within 36 months for the majority of the core privileges.
In addition, ongoing emergency medicine ultrasound quality assurance and continued education programs will ensure appropriate maintenance of attendings' ultrasound knowledge and skills.

II. Training/Credentialing

Emergency physicians should obtain a minimum of 25 ultrasounds per primary indication or 150 ultrasounds for general emergency ultrasound privileges before credentialing for independent use. This should be preceded by 16-24 hours of formal ultrasound teaching.

(Reference: ACEP Position Paper, 2008. Policy Statement, 2006)

1. Didactic Requirements: A minimum of 16-24 hours of didactic training is required. Components of the didactic training should include:
    a. An introduction to ultrasonography
    b. Ultrasound physics
    c. The use of ultrasound controls to improve image acquisition
    d. Specific examination protocols
2. Meeting the Didactic Requirements: A number of educational methods can be used to present the didactic component of ultrasound training. These include:
    a. Attendance at formal training courses
    b. Attendance at ultrasound lectures including ultrasound case presentations
    c. Video, CD or Web Based assisted learning
3. Hands on Training: The eight different site specific indications for emergency ultrasonography are listed below:
    a. Trauma (FAST or eFAST Exam)
    b. Cardiac
    c. Abdominal Aortic Aneurysm
    d. Urinary tract
    e. Biliary
    f. Intrauterine pregnancy
    g. Procedural ultrasound

h. Evaluation of the patient in shock

4. Hands on Training Requirements: In order to be credentialed in a specific area, a minimum of 25 site specific exams must be performed and then reviewed by a credentialed supervising physician. The review may be performed at the bedside or by review of the tape/disc of the ultrasound examination.

Clinical Indications	**Examination Components**	**Min. Number of Documented and Reviewed US Exams needed for Proficiency**	**Min. Number of Positive Exams**
Blunt or penetrating thoraco-abdominal trauma	eFAST exam (this includes evaluation for pericardial fluid, intra-thoracic and intra-abdominal fluid and presence of pneumothorax)	25 **Major Question: Fluid or No fluid**	10%=3-4
Cardiac patient	Cardiac echo (to detect pericardial effusion, r/o tamponade and assess global inotropy and cardiac activity in the coding pt)	25 **Major Questions: Fluid or No fluid Cardiac activity or No cardiac activity**	10%=2-3 (for effusion)
Suspected AAA	Ultrasound of the abdominal aorta	25 **Major Question: AAA or no AAA**	10%=2-3
Suspected obstructive uropathy or bladder distension	Ultrasound of the kidneys and bladder	25 **Major Questions: Hydronephrosis or no hydroneprhosis Bladder distension or no bladder distension**	10%=2-3
Suspected Biliary colic	Ultrasound of the	25	10%=2-3

	gallbladder	**Major Question: Gallstones or No gallstones**	
Potential ectopic or fetal demise	Ultrasound of the uterus (presence of IUP or fetal cardiac activity)	25 **Major Questions: IUP or No IUP Cardiac activity or no cardiac activity**	10%=2-3
US – guided procedures	US guided central, peripheral line, arterial access Suspected abscess Pericardiocentesis (emergent), thoracentesis, paracentesis, arthrocentesis, bladder drainage LP FB localization Temporary pacer evaluation Aid in orthopedic dislocation, fracture Nerve blocks	10 or Demonstration of proficiency during hands-on workshop	
Total minimum of Ultrasound Exams		**160**	

Evaluation of the shock patient may include a combination of eFAST, cardiac echo, AAA evaluation and pelvic ultrasound.

These exams will be directly or indirectly evaluated by the ED ultrasound coordinators composed of 2 sonographers, Drs Chin and Roy. Also involved are the director of the ED Dr Benanti and the assistant ED director who is over the QI and QA of the ED, Dr Johnson. The goals of teaching are to establish basic skills, verify the quality of images produced and verify

the accuracy of examinations. Direct teaching will require time spent with the ultrasound coordinators. Indirect teaching will occur through recorded examinations and comparison with other imaging modalities or OR findings.

During the initial credentialing all of the ultrasounds performed will be reviewed via this QA process

Images will be recorded in GE centricity.

Of these studies at least 10 percent need to be positive and there must be successful completion of a standardized test administered by one of the Emergency Department ultrasound coordinators or licensed sonographer.

New applicants are to submit proof of training in residency and to demonstrate proficiency by observation of 5 cases by the Emergency Department ultrasound committee or licensed sonographer.

Possession of the Registered Diagnostic Medical Sonographer (RDMS) certification or completion of an approved Emergency Department fellowship in ultrasound is considered over and above the necessary qualifications listed by nature of their prerequisites but not required.

III. Reappointment

To maintain privileges, applicant will demonstrate proficiency in performing 2 procedures per month per specific area during a two-year period monitored by a qualified proctor. All credentialed physicians must have at least 5 hours of CME in ultrasound every 2 years.

IV. Quality Assurance and Improvement: Monitoring Ultrasound Performance and Interpretation

Every ultrasound exam outside of possibly procedural ultrasound performed in the South Shore ED must be recorded by video clips, discs or still images and properly documented. These will be archived in the hospital's GE Centricity. In accordance with ACEP guidelines, all ultrasound examinations performed in the ED that are used to facilitate patient care decisions will have results documented in the ED chart (these exams will be documented as "emergency bedside ultrasound"). The ED record and ultrasound data collection log sheet will document the course of action taken based on the emergency ultrasound findings. If the findings of the emergency ultrasound (EUS) are equivocal additional diagnostic testing may be indicated. EUS does not preclude the need to obtain definitive studies: echo, US, CT, MRI, vascular studies or otherwise with reading by Cardiologist or Radiology.

Incidental findings beyond the scope of focused ED studies will be noted either in the discharge instructions or on a separate sheet giving clear direction for follow-up. As time, ability or urgency dictates, the follow-up may occur during that patient's encounter with another service.

EUS performed at South Shore ED will be reviewed on a weekly basis. The review process will have three functions:

1) As a tool for education and feedback for physicians completing the credentialing process,
2) To monitor ongoing performance of physicians that have completed the credentialing process,
3) To identify areas of deficiency requiring ongoing education or peer review.

The ultrasounds will be reviewed on three criteria:

1) Was the study indicated by the patient's presentation?
2) Was the study technically adequate?
3) Was the interpretation correct?

After credentialing approximately 5% of the ultrasounds performed by each physician, selected at random, will be reviewed. The findings of the review process will drive the ongoing medical education in the form of Journal Club, formal didactics, practice sessions or focused review. By so doing, coordinators will monitor the performance of attendings trained in ultrasound. Feedback will be made to attendings on a weekly basis.

V. Equipment Use and Maintenance

The South Shore Department of Emergency Medicine assumes all maintenance repair and inspection standards as established by South Shore Hospital. Currently purchased are the Philips En Visor in 2004 and the Zonare One Ultra system in 2008.