Ochsner | LSU Health Shreveport	**Policy #:17.13**
SUBJECT: Sonographic Exam Categories	**Effective: 1/99** **Updated: 2/21/19**
APPROVED BY: : Director of Radiology	**Page 1 of 5**

Sonographic Exam Categories

CATEGORY OF EXAMINATION:

1. NECK:
    a. Superficial neck masses - (lymph nodes, cystic or palpable neck masses).
    b. Thyroid – identification of pathology. Define cystic versus solid nature.
    c. Parathyroid – identification of pathology. Define cystic versus solid nature.
2. BREAST:
    a. Baseline screening for pathology (especially beneficial for fibrocystic disease in young patients and during pregnancy).
    b. Selective neoplasm evaluation following mammography to define cystic versus solid components.
    c. Biopsy localization – to identify lesion for biopsy and place surgical marker.
    d. Ultrasound – guided aspiration biopsy – to localize for procedure
    e. Duplex evaluation – to determine the vascularity of neoplasm's.
3. SUPERFICIAL STRUCTUES:
    a. Palpable masses – to identify superficial masses and determine intra structure (cystic, solid, vascular, etc.)
    b. Baker's Cyst – localize cyst and confirm the sonolucent nature.
    c. Fluid collection – (abscess, hemotoma, etc.) – to identify superficial fluid collections and define the tissue characteristics.
4. LUNG:
    a. Chest/Medinstinum – identification of fluid present in the lung.
    b. Pleural aspiration guidance with localization and marking for entry into the lung and/or drainage tube insertion.
5. ABDOMEN:
    a. Complete Abdominal Survey (imaging of entire abdomen from xiphoid to umbilicus). Includes not only target organs, (liver, gallbladder, pancreas, and spleen), but also bowel areas and free spaces to identify any disease process.
    b. Liver – emphasis on the liver (tissue texture, vessels and any abnormality present.)
    c. Portal System – Duplex Doppler evaluation to determine patency, rule-out obstruction and in case of portal hypertension, verify hepatopetal/hepatofugal flow and identify any patterns of collateral flow.
    d. Pancreas – Selective scanning of the pancreas and surrounding vasculature along with the pancreatic duct and common bile duct.

e. Gallbladder/Biliary System – Selective imaging of the gallbladder, common bile ducts and biliary radicals.
f. Aorta – Selective imaging of the aorta with proper measurements. If diameter exceeds 3 cm, the renal arteries are also scanned and measured.
g. IVC and Renal Veins – Selective scanning often performed in cases of renal cell carcinoma to identify any thrombus or spread.
h. Lymph nodes/periaortic masses – primary abdominal vessel regions are scanned to identify lymph node enlargement (celiac axis, aorta, etc.)
i. Ascites – abdominal and pelvic screening to verify the presence of ascitic fluid. Specific areas of primary interest: cul-de-sac, Morison's pouch, lateral abdominal and around the liver and spleen.
j. Spleen – Selective scanning of the spleen and its respective vasculature to rule-out pathology.
k. Acute Appendicitis – Will require linear transducer to gain best images of bowel.
l. Abscess Localization – Specific areas may be ordered selectively such as liver, spleen, etc., or a general survey of the entire abdomen.
m. Stomach – Not usually an area of scanning, however in selective cases, fluid can be given by mouth to use in visualization of stomach.
n. Aspiration – Biopsy procedure – Selective organs (liver, pancreas, etc.) may be localized for procedure. Scanned and marked with depth measurements prior to procedure.
o. Trauma injuries – Follow same protocol as for a complete abdomen.
p. Retroperitoneal Scanning – Includes lymph nodes, aorta, pancreas, muscles, etc. Protocol of complete abdomen is followed by selective views of the posterior musculature and kidneys.
q. Hernia – Selective area in question is scanned with superficial linear transducer to identify any herniated area.
r. Liver transplant – Complete abdomen is scanned with selective views of the liver. Duplex scanning is performed to determine patency and flow direction of the portal veins, hepatic veins, hepatic artery and splenic veins.

6. GENITOURINARY:
   a. Kidneys – baseline exam includes complete imaging: with measurements of length and AP diameter.
   b. Ureters – Not normally seen but in case of hydronephrosis, lower kidney to bladder is scanned to try to identify dilated ureter to the point of obstruction.
   c. Renal Transplant – Baseline duplex study done two days post-op to obtain normal measurements and to rule out any masses, hematomas, or fluid collections. Color flow and Doppler are routinely performed on transplant

patients. Special emphasis is placed on interlobular and arcuate arteries. Subsequent examinations performed as requested.

d. Urinary Bladder – Baseline study with measurements. (Length, width, AP diameter). Post-void study with repeat measurements.
e. Renal or transplant biopsy – Kidney is localized by ultrasound and a mark is made on skin surface. Distance from anterior surface to kidney is measured. Note Physician must be present to determine specific area.
f. Renal Duplex Scan – Renal vessels are localized and a waveform analysis obtained to identify any stenosis, occlusion or disturbance of flow. Also performed with renal aneurysms or any suspected vascular lesions.

7. MALE REPRODUCTIVE SYSTEM
    a. Prostate – normally these scans are obtained in the Urology Department. We can image only from outside surface and obtain measurements.
    b. Scrotum, testes – baseline bilateral study performed of both testes and AP and length measurements obtained. Any lesion present is scanned to determine cystic versus solid nature.
    c. Duplex Scrotal Scan – Identifies testicular vasculature to rule out torsion or vascular obstruction.
8. OBSTETRICS:
    a. Determination of pregnancy
    b. Intrauterine versus etctopic to identify implantation site and confirm the normal intrauterine location.
    c. Determine the number of fetuses. If twins are present, determine number of placentas and location; individual measurements, i.e. BPD, abdomen, orbits, femur, are obtained for each fetus.
    d. Fetal dating – Baseline protocol includes measurements of BPD, OFD, abdomen, and femur to calculate dates.
    e. Fetal Anatomy – Protocol includes skull (ventricles & BPD, OFD), thorax, (heart & lungs with TM verification), abdominal (with measurements and identification of the stomach and ductus venosus), spine, bladder extremities, cord insertion or cord and placenta.
    f. Fetal Heart – Selective views of the heart are obtained to demonstrate chamber size. A Time-Motion Study is also obtained to verify viability and heart rate.
    g. Placenta Evaluation – To determine location and obtain appropriate views for staging.
    h. Rule-out Placenta Privia – Baseline studies with a full bladder with emphasis on the posterior uterine attachment of placenta.
    i. Rule-out Placenta Abruptio – Baseline studies with a full bladder with emphasis on the posterior uterine attachment of placenta.

j. Fetal Growth Retardation – Serial monitoring with baseline studies and fetal dating evaluation.
k. Fetal Demise Evaluation – baseline study with emphasis on the fetal heart patency and fetal viability.
l. Fetal Anomalies – Complete fetal baseline study with emphasis on the fetus organs and fetal heart activity.
m. Pathology associated with pregnancy (fibroids, ovarian tumors, etc.). Routine baseline of the gravid uterus and careful screening of the adnexal and pelvic abdominal area. Any site of pathology is documented, measured with definition of tissue characteristics.
n. Amniocentesis localization – Placenta is identified in a post void state, appropriate area is marked to avoid fetus and placenta areas.
o. Amniotic Fluid Evaluation – Total intrauterine volume (TIUV) examination is performed in addition to the baseline study.
p. Fetal Neurology – Fetal baseline study is performed with special emphasis on the fetal skull. Ventricular measurements are obtained.
q. Rule-out Abortion – Complete pelvis scan with special emphasis on the fetus, if present. Requires documentation of the fetal heart and fetal structures with measurements of the uterus.

9. Gynecology:
    a. Baseline Pelvis Scan – Routine study requires serial viewing of the pelvis and special emphasis on the uterus, ovaries, and adnexal areas. AP and longitudinal measurements are obtained of the uterus and ovaries. An Endovaginal scan - as needed for more detailed look at uterus and ovaries.
    b. IUD Localization – Baseline of the pelvis is performed identifying the IUD in the uterine cavity. If it is not identified, a careful search of the adnexal areas, lower abdomen and pelvis is performed
    c. Ectopic pregnancy – Complete pelvis baseline study is performed with proper identification of the uterus, ovaries and cul-de-sac area. Any fetal structures present are documented to verify intra or extra uterine.
    d. Congenital Anomalies (double uterus, etc.). A baseline pelvis with selective scanning of the pelvic reproductive organs.
    e. Pelvis Inflammatory Disease – Complete pelvic scan with emphasis on the reproductive organs and careful screening of the cul-de-sac, adnexal and lower abdominal areas to localize abscesses or fluid collections.
10. Neonatal Neurology:
    a. Identification of vascular bleeds.
    b. Identification of hydrocephalus.
    c. Assessment of intracranial structures and any pathology present, i.e., lesions, abscesses, or fluid collections.
    d. Evaluation of congenital anomalies.

e. Localization and monitoring of ventricular shunts.

11. Pediatrics:
    a. Follow the same protocol as adult examinations except selective transducers and focal zones are utilized. There are some specific examinations which apply to pediatric patients as follows:
    b. Precocious Puberty – To identify the reproductive organs and the adrenal gland and to rule-out any congenital anomaly, mass or lesions.
    c. Pyloric Stenosis – Special views of the stomach and pylorus without fluid to demonstrate patency.

Updated: October 2013
Reviewed: 1/14/07,1/09, 10/12
Revised 3/30, 3/00
Written 1/99
Reviews4/1, 7/6