

## ***MSS Minutes Wed Feb 17, 2016***

**Speaker:** Janette Wybo, DMS Program Coordinator; Providence Hospital-Southfield, Michigan

**Topic:** Sonographic Scanning Secrets.

**Sponsor:** GE Healthcare; Rich Marth

**Interesting Case:** Providence Hospital DMS Students

**Liz Lawrence, MSS President** extended our appreciation to our sponsor Rich Marth of GE Healthcare Inc. for the wonderful refreshments. If we didn't have the support year after year of our great sponsors and speakers, we could not exist as a DMS Society and could not provide outstanding educational material each year to the field of sonography.

**Rich Marth, GE Health Systems;** spoke about some of the GE Ultrasound Systems. Rich highlighted the GE Logic (Clear 2.0 system.) The LOGIQ\* E9 with XDclear is a powerful and versatile general imaging system that helps meet a wide variety of general imaging needs. With its intuitive, advanced capabilities, the LOGIQ E9 with XDclear allows you to make every day extraordinary LOGIQ E9 with XDclear can help Deliver extraordinary image quality on a broad spectrum of patient body types. Other features include: the ability to visualize blood flow without the limitations of Doppler. It enhances the workflow and integrates real-time ultrasound with previously acquired CT, MR, PET, or Ultrasound images. XDclear transducer technology XDclear transducers are GE's highest performing transducers featuring advancements in acoustic engineering, to help increase penetration and deliver high definition resolution. This technology is available on the C1-6 and C2-9 transducers. XDclear transducers are a patented combination of these GE technologies.

The **Providence DMS students** presented two cases; one pertaining to andy Walker Malformation will be highlighted. The case presented with a 33yo OB patient G3P2 at 18 weeks gestation. The sonographer identified some abnormalities in the fetal brain. The 3rd ventricle was dilated and there appeared to be an absent cerebellar vermis as well as hydrocephalus. This malformation occurs an average of 1:30,000 births with a 1:3 male to female ratio; this syndrome is associated with TORCH virus. and can result in an up to 40% infant mortality.

Dandy-Walker Syndrome is a congenital brain malformation involving the cerebellum (an area of the back of the brain that coordinates movement) and the fluid-filled spaces around it. The key features of this syndrome are an enlargement of the fourth ventricle (a small channel that allows fluid to flow freely between the upper and lower areas of the brain and spinal cord,) a partial or complete absence of the area of the brain between the two cerebellar hemispheres (cerebellar vermis) and cyst formation near the lowest part of the skull. An increase in the size and pressure of the fluid spaces surrounding the brain

(hydrocephalus) may also be present. The syndrome can appear dramatically or develop unnoticed. The effect of Dandy-Walker Syndrome on intellectual development is variable, with some children having normal cognition and others never achieving normal intellectual development even when the excess fluid buildup is treated early and correctly. Longevity depends on the severity of the syndrome and associated malformations. The presence of multiple congenital defects may shorten life span.

Our featured speaker was **Janette Wybo**-- DMS Program Coordinator. Her topic was sonography scanning secrets. Janette focused on the abdominal scan. She talked about the importance of remaining perpendicular to the organ when scanning; and when utilizing color Doppler imaging we must remain parallel to the vessel. Janette spoke about trying different transducers to work through imaging rib spaces, and to start with higher frequencies instead of sizing up the overweight patient and immediately selecting penetration. She spoke about the importance of changing the patient position for GB, Liver, CBD, Kidney and having them inspire for every image. Remember to image every 2 cm on the liver and change the focal zones when changing the depth so that we don't miss a diagnosis such as a pleural effusion. Remember to narrow the sector for an increased field of view. For Doppler, she reminded us to change the PRF (pulse repetition frequency) to allow us to better interrogate the vessels. A good rule of thumb is;  $>/ 20$  for arterial flow and  $</ 10$  for venous flow.

Other tips included changing probes such as: neonate probe or linear probe for a GB wall and turning on compound imaging to highlight stone shadowing. For the aorta, have patient inspire for proximal area and have them bend their knees up for mid Aorta as this relaxes their belly for better visualization. Also, remember you can try to image the aorta from the LUQ if all else fails. Janette spoke about the importance of sagittal imaging for the pancreas and to make sure the entire pancreas head/uncinate area is imaged on transverse. Remember to follow the MPV(main portal vein) to the splenic vein to find the pancreas. You can ask patient to push out their belly to bring pancreas into field of view. When scanning kidneys use the liver/spleen for a window and use a coronal or more anterior approach. Harmonics is an important tool to utilize when scanning abdomen; it was invented to optimize the GB imaging. Last but not least: remember to survey all organs before imaging.

Liz thanked our attendees and reminded everyone the next meeting is **Wednesday, March 16 at Beaumont Hospital Royal Oak**, Administration Building and our guest speaker is: Dr. Raphael Carballido; OB/Gyn Central Univ of Venezuela; the topic is: Cervix during pregnancy and Elastography. Our sponsor is Jeff Rubinoff of Complete Medical Systems-Alpinion Ultrasound. The interesting case presentation will be presented by the DMS students at Oakland Community College

Respectfully submitted:

Julie Atkinson, RDMS/RVT; MSS Secretary