



## **Engagement Sonographer Request Series**

### **#1 Scanning Obese Patients**

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Welcome to the Sonographer Request Series!

As part of a dynamic community at Inteleos, we're taking this space to dive deeper into the challenges, questions, and practices that impact sonography. This month, we're tackling key tips for safety in scanning obese patients.

In today's tips, we'll focus on safe scanning tips for obese patients.

#### **Understanding the Impact: Ultrasound and Obese Patients**

The latest CDC survey found that **all** U.S. states and territories had an obesity prevalence higher than 20% (more than 1 in 5 adults). With such a widespread condition, sonographers see many of these patients regularly—especially in cases where a patient exceeds table weight or aperture opening limits that make other forms of imaging inaccessible.

When limited mobility is a factor, these patients may need bedside exams, which provide fast access to imaging but present logistical difficulties due to the environment and its limitations.

In addition to the physical challenges to sonographers, a patient's thick adipose tissue layer can sometimes create a barrier that leads to poor penetration of the ultrasound beam. In these cases, it can be difficult to visualize deep abdominal structures and capture key details in a high-quality diagnostic image.

#### **Tips for an Ergonomic Mindset**

Training and support for mindful movement is critical in preventing WRMSDs, especially in this demanding context. Here are our top five tips for safer scanning of obese patients.

##### *Adjust often.*

Ergonomic tables, chairs, and workstations can all help to support proper posture. Don't forget to reset between patients: be attentive to your own movements as well as each patient's unique needs. Adjustments keep your body moving easily.

##### *Mind the mechanics.*

Use larger muscle groups for movements and keep a neutral spine alignment. Regular stretching and mini breaks are a must, especially to combat hand fatigue when applying the extra force (and using the heavy equipment) and repetitive movement needed to care for obese patients.

Compound imaging combines multiple ultrasound images taken from different angles to create a single composite image which can be especially useful in reducing artifacts and evaluating patients in breast, vascular, and MSK. Attention to the wrists and hands is especially important during these longer exams.

##### *Prepare with positioning.*

The quality of each scan—and safety—start with positioning. Obese patients often require added reach, and this increased physical strain can lead to musculoskeletal injuries over time—especially in the shoulders, back, and wrists.

Consider scanning from the lateral decubitus, oblique, semi-recumbent or upright positions to help displace the panniculus for better visualization. Be mindful of minimizing distance and reach, and ideally work with an assistant for support.

### *Engage in the environment.*

Any chance to bring sonographers into the design and adjustment of their work environment reduces injury rates. Whether it's in shift and scheduling design, direct patient care, or selection of physical tools, we're all in this together.

### *Maintain a human approach.*

Don't forget to check patient history to gather context before you begin! And be aware: the bias towards obese patients can be very real. It's key to remain open-minded and professional.

It's also essential to explain the challenges you'll face to clearly manage expectations for everyone involved—including those who manage patient schedules.

### **Next Steps: Keep Learning!**

Regular ergonomic training and refresher courses help keep us on our toes—and reinforce best practices. (Hint, hint: don't miss our upcoming webinar on WRMSDs!)

In addition, we've compiled some industry research and resources here so you can dive deeper into technical imaging challenges, obesity prevalence statistics, and case studies that could impact imaging and obese patients.

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- € Explore the latest WHO Fact Sheet on Obesity (<https://www.who.int/news-room/fact-sheets/detail/obesity-and-overweight>)
  - See the United States Adult Obesity Prevalence Maps from the CDC (<https://www.cdc.gov/obesity/php/data-research/adult-obesity-prevalence-maps.html>)
  - Study: Body Mass Index and Abdominal Ultrasound Image Quality: A Pilot Survey of Sonographers (<https://journals.sagepub.com/doi/full/10.1177/8756479313476919>)
  - Study: Technical challenges of imaging & image-guided interventions in obese patients (<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6223172/>)
  - Study: How to optimize imaging in the obese gravida (<https://www.contemporaryobgyn.net/view/how-optimize-imaging-obese-gravida>)
  - Article: Special probes improve ultrasound imaging in obese patients (<https://medicalxpress.com/news/2023-10-special-probes-ultrasound-imaging-obese.html>)
  - Study: Impact of Obesity on Medical Imaging and Image-Guided Intervention (<https://ajronline.org/doi/10.2214/AJR.06.0409>)
  - Study: The Obese Emergency Patient: Imaging Challenges and Solutions (<https://pubs.rsna.org/doi/10.1148/rg.313105138>)
  - Blog: Improving ultrasound imaging of obese patients (<https://www.ntnu.no/blogger/cius/2023/improving-ultrasound-imaging-of-obese-patients/>)
  - Study: A Primer on the Physical Principles of Tissue Harmonic Imaging (<https://pubs.rsna.org/doi/10.1148/rg.2015140338>)
  - Article: Imaging individuals with obesity (<https://www.sciencedirect.com/science/article/abs/pii/S1939865422000303>)
  - Study: The application of high-performance ultrasound probes increases anatomic depiction in obese patients (<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC10539468/>)

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