Output Power vs. Receiver Gain

Adjustments to either output power or receiver gain change the brightness of the entire image.

Output Power

Affects brightness by adjusting the strength of the sound pulse **sent to the body** by the transducer.

When the pulse is more powerful, all of the returning echoes from the body are stronger, and the image is brighter.

When the image is too bright due to high output power, the lateral and longitudinal resolution degrade. ψ

Receiver Gain

Affects the brightness by changing the amplification of the electronic signals **after returning to the receiver**.

When amplification is increased, the electronic signals in the receiver are boosted, and the image will be brighter.

Which one?

To determine whether a control affects output power or receiver gain, look at the its description. When the term suggests "outgoing" the function is probably output power. When the word indicates "reception or incoming" the function is most likely receiver gain.

ALARA

When an entire image is either too bright or too dark, changes in output power or receiver gain may correct the problem. As a first option, always choose the option that will **minimize patient exposure**. ψ

Use the **ALARA Principle**—**A**s **L**ow **A**s **R**easonably **A**chievable

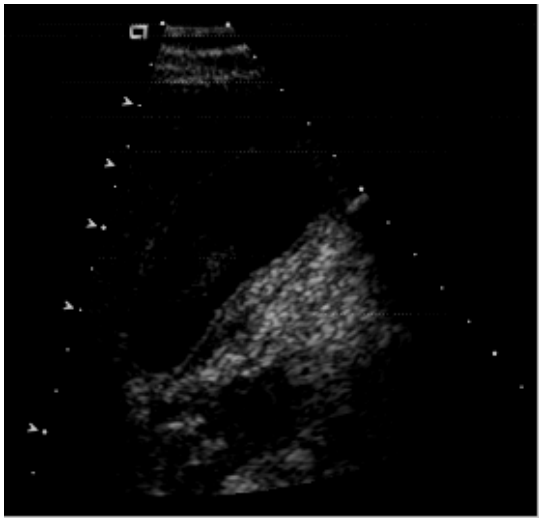

image too dark—first, increase receiver gain

image too bright—first, reduce output power