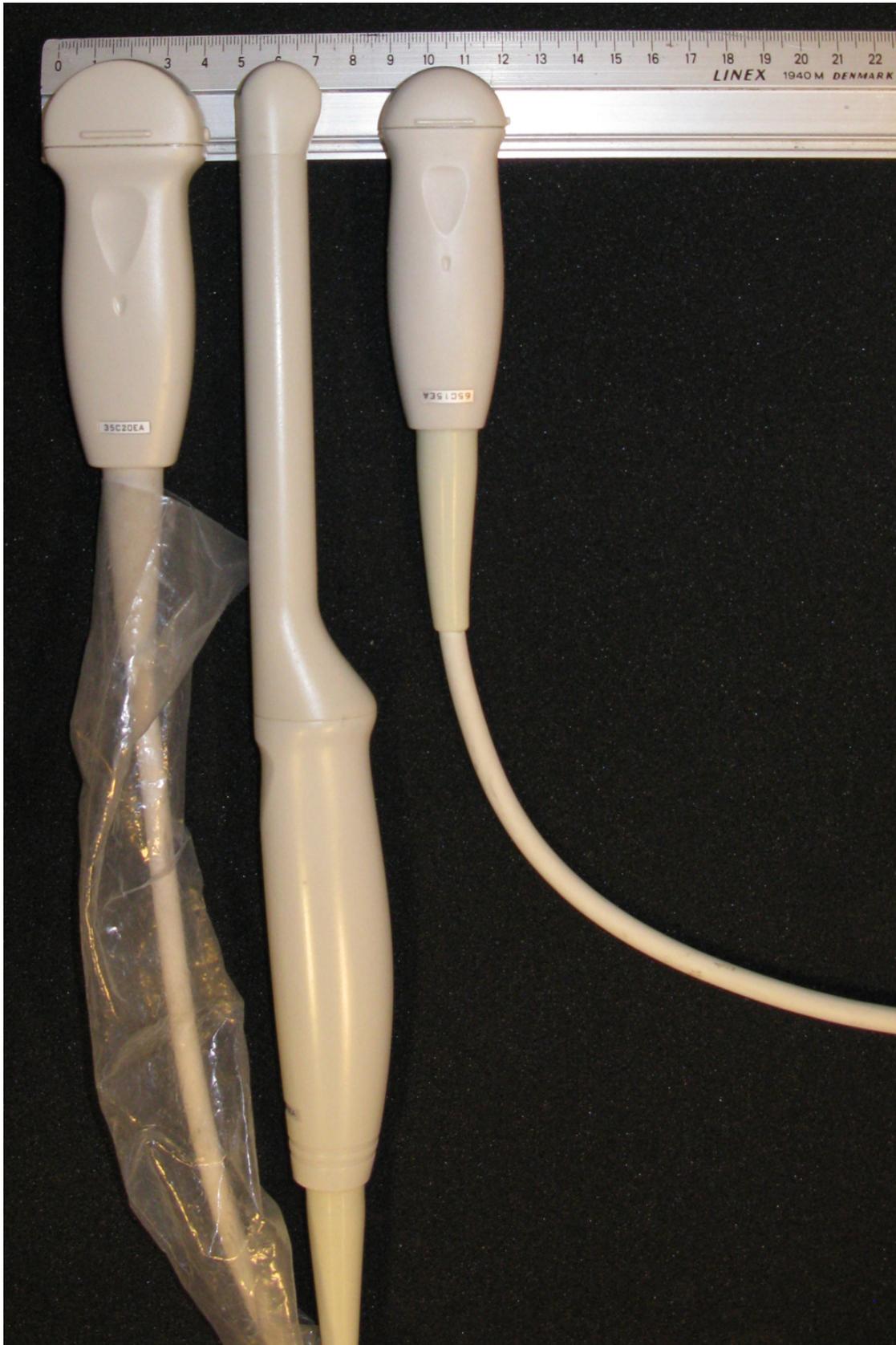


Mindray Probe Performance Comparison



Left to right: 65C20EA, 65EC10EA, 65C15EA. All suitable for Mindray DP6600

Three sets of images for the high front vowel /i/ and the low front vowel /a/ for three Mindray probes taken on a DP6600. The frequency of each of transducer is set to the

middle frequency of each probe. [Should really have selected the lowest frequency for the 65EC10EA and 65C15EA but forgot].

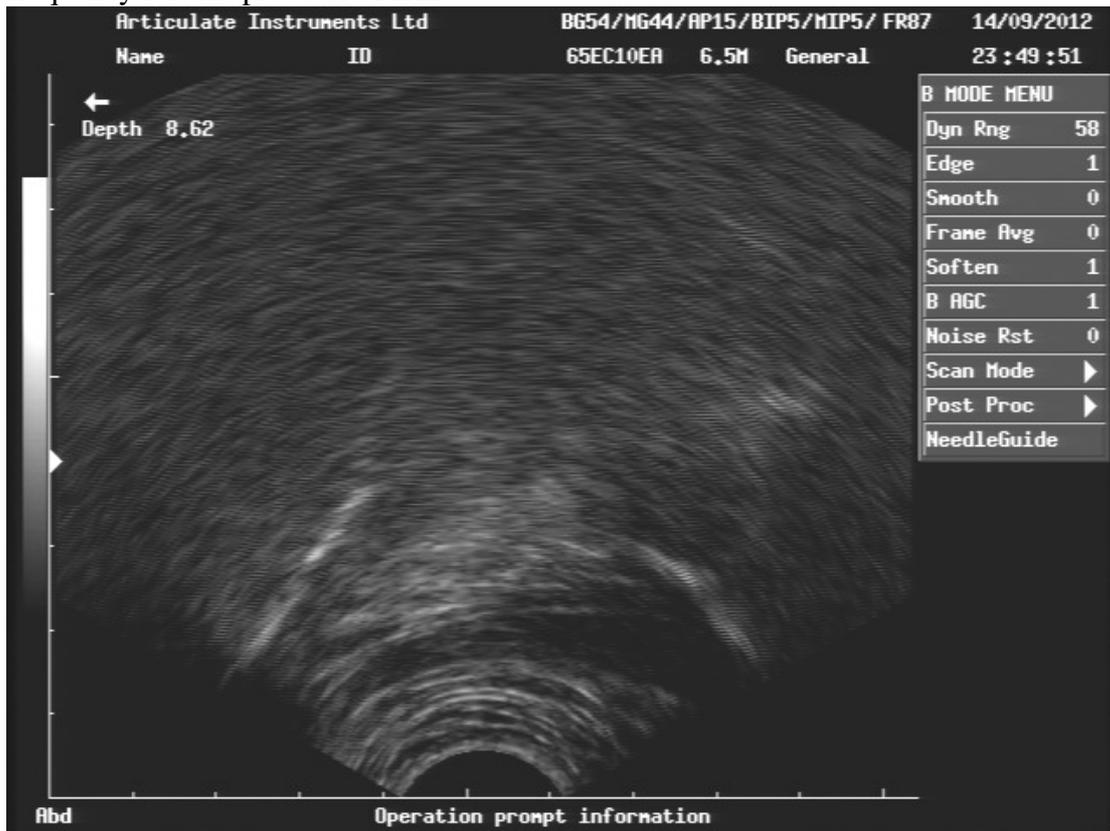
The following large images are for an adult male with 80mm between palate and transducer head, who images very poorly. The 65C20EA is the clear winner in terms of the ability to discern a contour at 80mm.

Smaller adults and children will image well with all three probes and field of view and in such subjects a larger transducer radius on a smaller chin will give the 65EC10EA an advantage. The larger 20mm radius 65C20EA spans the entire distance from neck to mandible for small subjects and consequently restricts jaw movement more and is subject to mandible shadow obscuring the tongue tip.

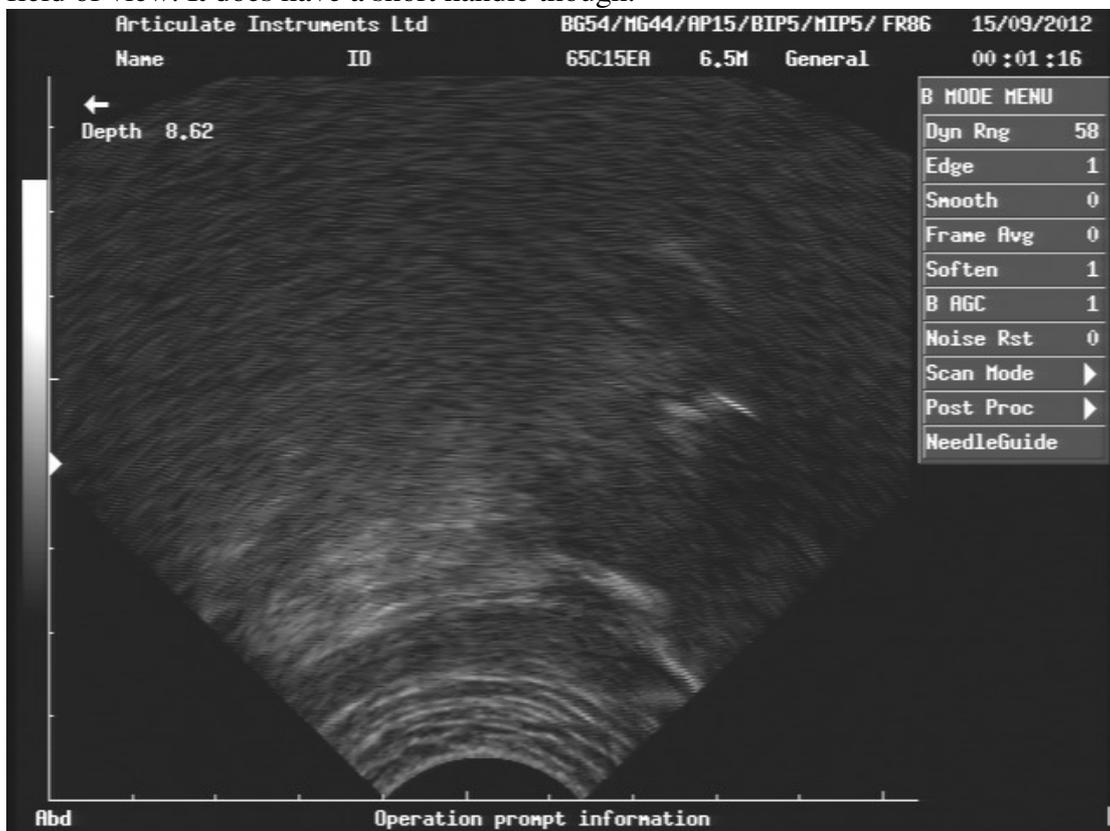
Mindray 35C20EA 3.5MHz /i/ Still get tongue contour at 80mm



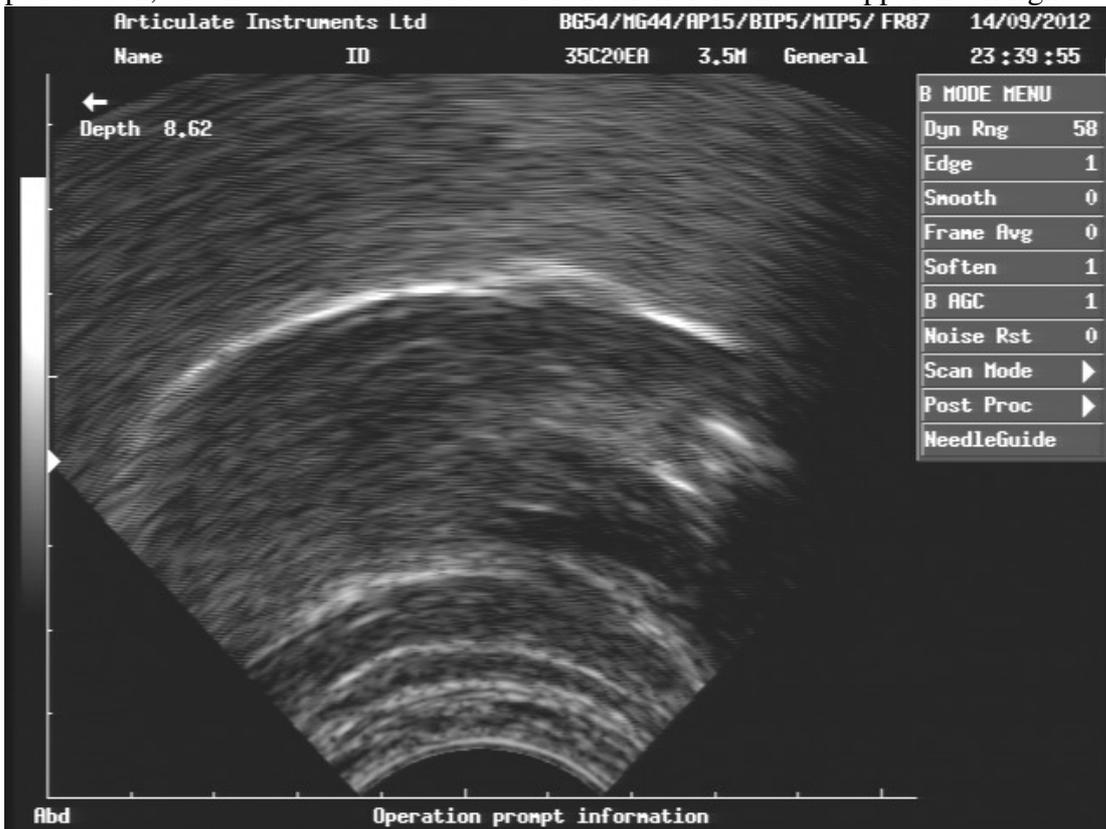
Mindray 65EC10EA 6.5 MHz /i/ has very weak or no contour at 80mm But wider field of view and no mandible shadow Slightly better penetration is achievable at the lowest frequency for this probe of 5MHz



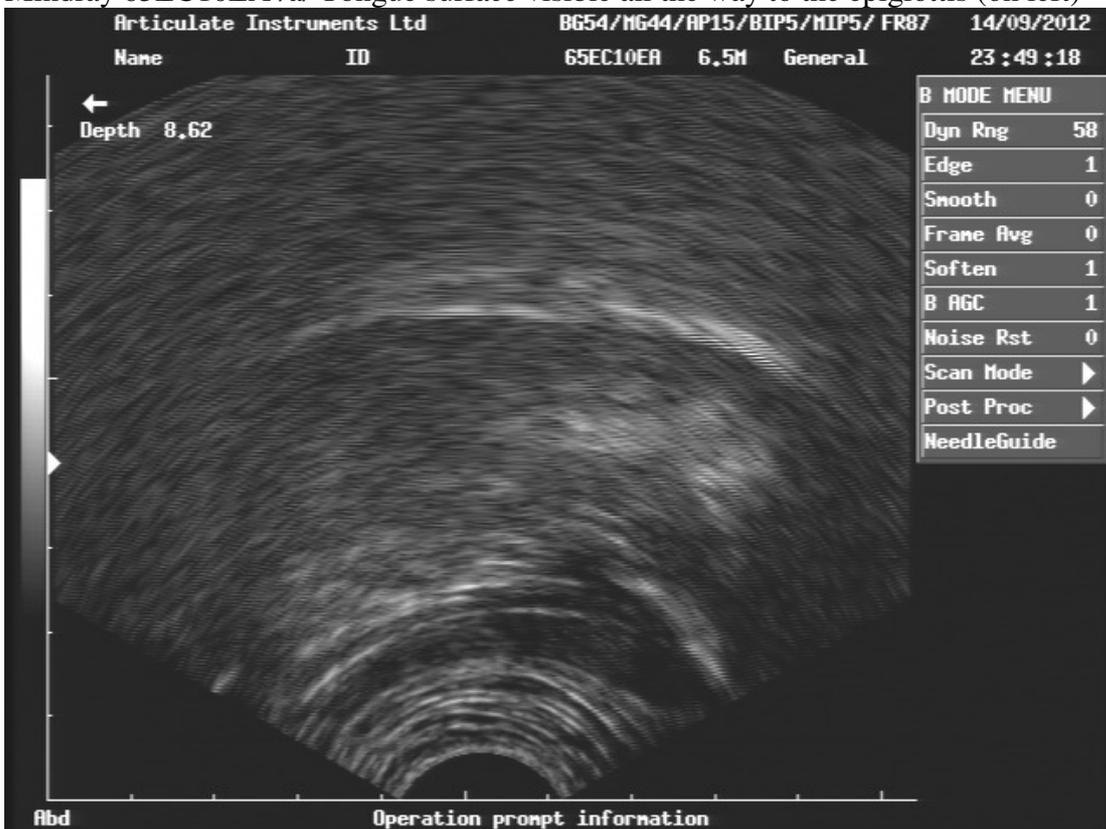
Mindray 65C15EA has again lost the contour outline at 80mm coupled with a narrower field of view. It does have a short handle though.



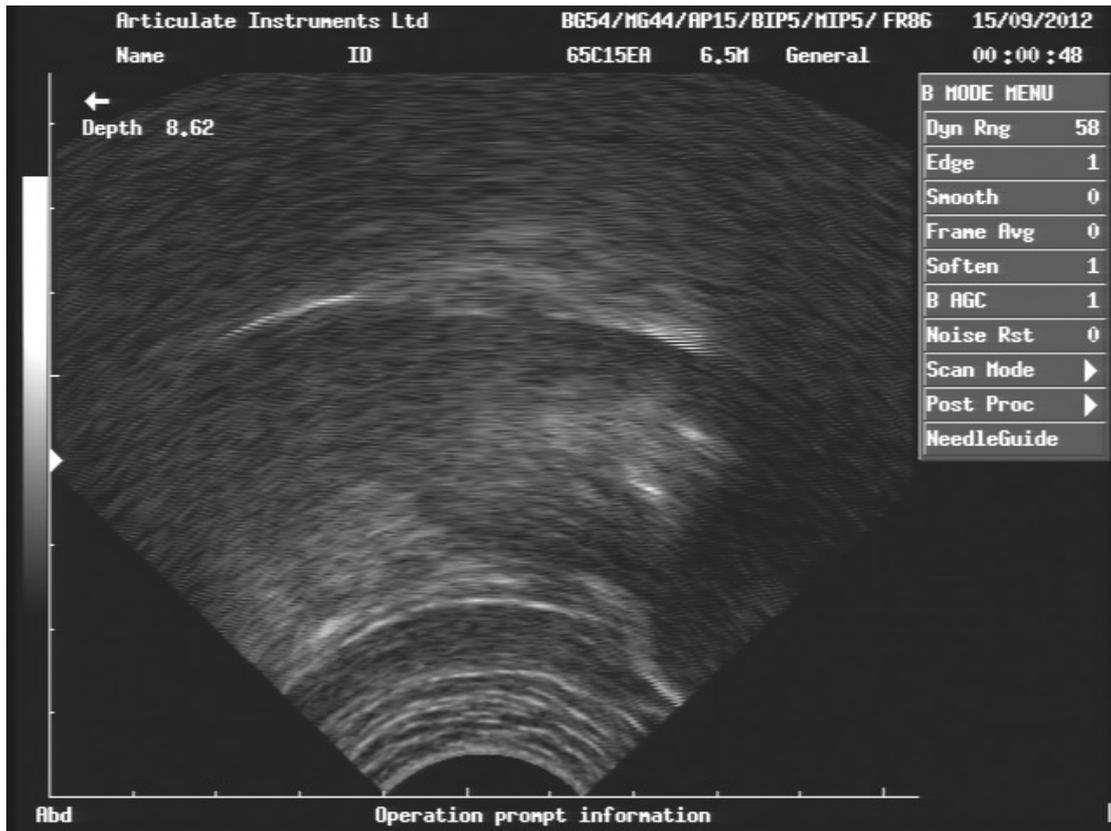
Mindray 35C20EA /a/ Clear contour at 60mm. Note that the image is a little less sharp than the other probes because the lower frequency, although it provides better penetration, also has reduced radial resolution. Mandible shadow apparent on right.



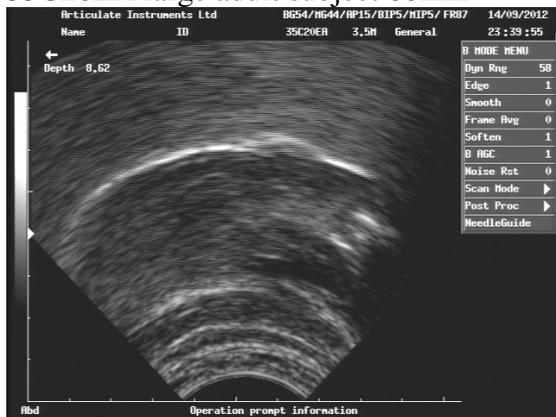
Mindray 65EC10EA /a/ Tongue surface visible all the way to the epiglottis (on left)



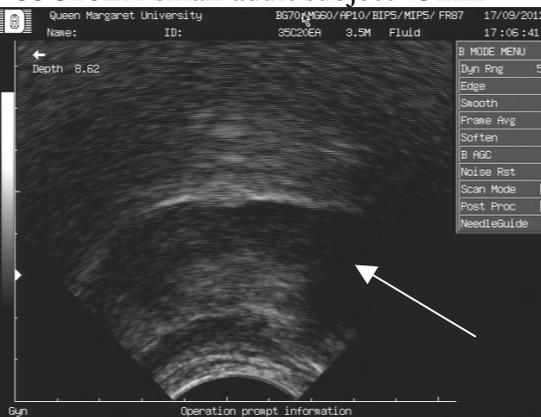
65C15EA /a/



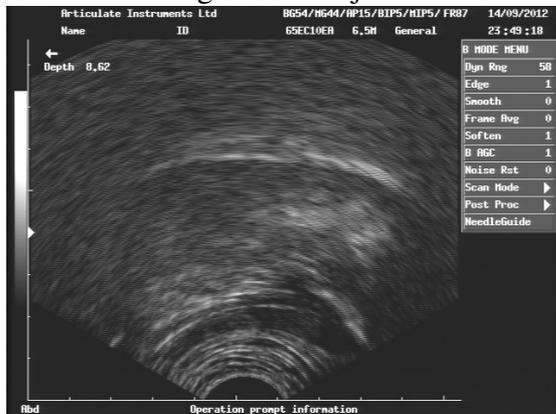
35C20EA large adult subject 60mm



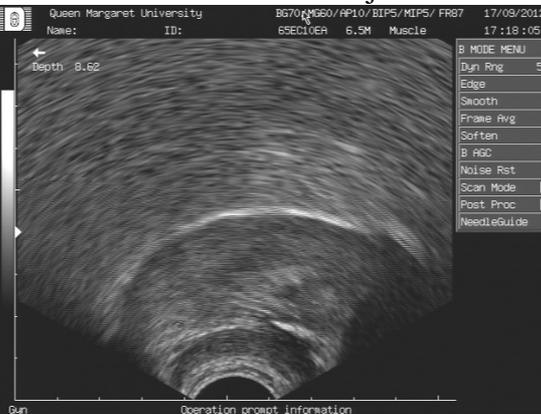
35C20EA small adult subject 45mm



65EC10EA large adult subject 60mm



65EC10EA small adult subject 45mm



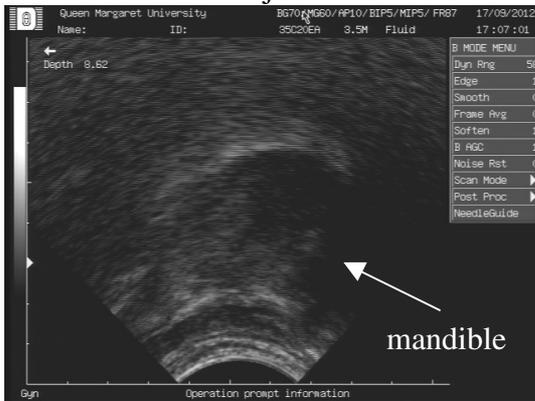
Note : the mandible shadow for the small adult subject reduces the amount of tongue tip that can be imaged.

65C15EA small subject 45mm



More tongue tip than 35C20EA but less root than 65EC10EA

65C20EA small subject /i/ 60mm



65EC10EA small subject /i/ 55mm



It is also possible to push the smaller 65EC10EA probe a little further into the chin without affecting jaw movement.

65C15EA /i/ small subject



Conclusion

- Use 35C20EA for subjects where the palate is 70mm or greater distant from the probe.
- Use 65EC10EA for smaller subjects who are able to sit forward so that the probe does not stick into their chest.
- Use 65C15EA for smaller subjects for whom the long handled probe is a problem.