

Scrotal US phantoms – Dr Simon Wilson Melbourne Australia. Oct 2023

I have stood on shoulders: [Canadian Urology Association Journal](#), [Sonography Minutes](#) and [SonoStuff](#).

I wanted some scrotal phantoms for a vasectomy conference. I have previously used Agar and metamucil (psyllium husk) with decent results so I tried a few things to create the scrotal phantoms.



Figure 1: ingredients

Ingredients:

Agar-agar strips or powder. Sold in Asian supermarkets, cheaper and firmer than gelatine
Metamucil Orange Flavoured and coloured psyllium husk. Colour does not transfer to probes or skin

Sodium metabisulphite. Preservative, sold at beer/wine making stores as cleaning agent. You can leave this out, just more likely to get fungi with storage after a few weeks.



Figure 2: whittling myself some testes

For the dense testes, my mix was 11grams agar, 750mL water, 6 teaspoons metamucil, $\frac{1}{4}$ teaspoon metabisulphite. I tend to boil the agar and water for five minutes until all threads are dissolved, allow to slightly cool, scatter on surface of liquid and add metamucil slowly with lots of stirring to avoid clumps and then the metabisulphite.

This dense mix was then used to make the testes: some in water bombs, some in a mould to later whittle into testes shapes.



Figure 3: Epididymis filling

The epididymis was made with 250mL water, 1 ½ teaspoon metamucil and 1/8 teaspoon metabisulphite.

After setting, the epididymis was tied around the testes for the balloon model, for the whittled/shapped testes I decided to use paper soaked in cornstarch glue (paper mache) – this did not work very well, see scans later.



Figure 4: balloon testes with balloon epididymis and whittled testes with balloon epididymis, held together iwth paper



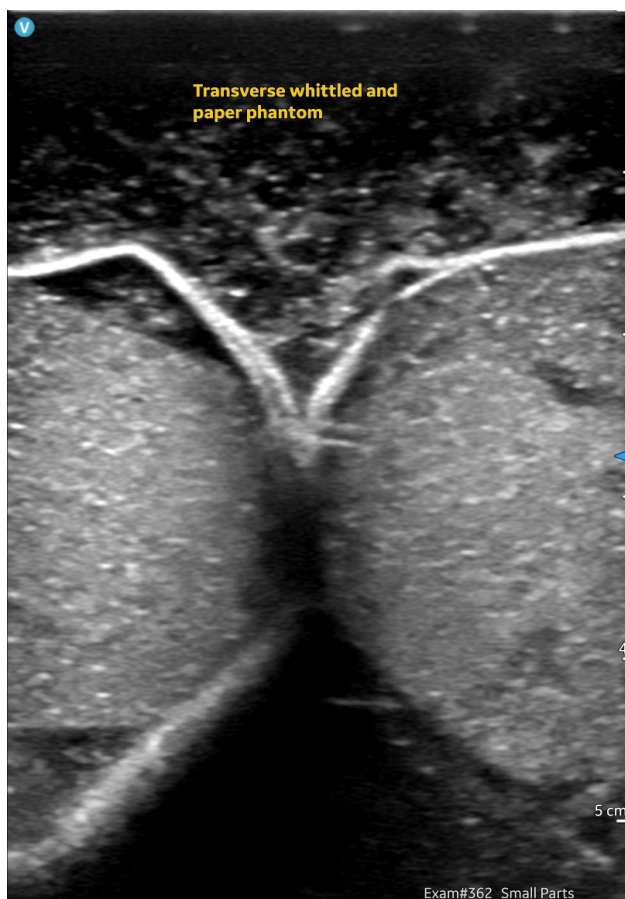
Figure 5: testes about to have the lower density agar poured around them



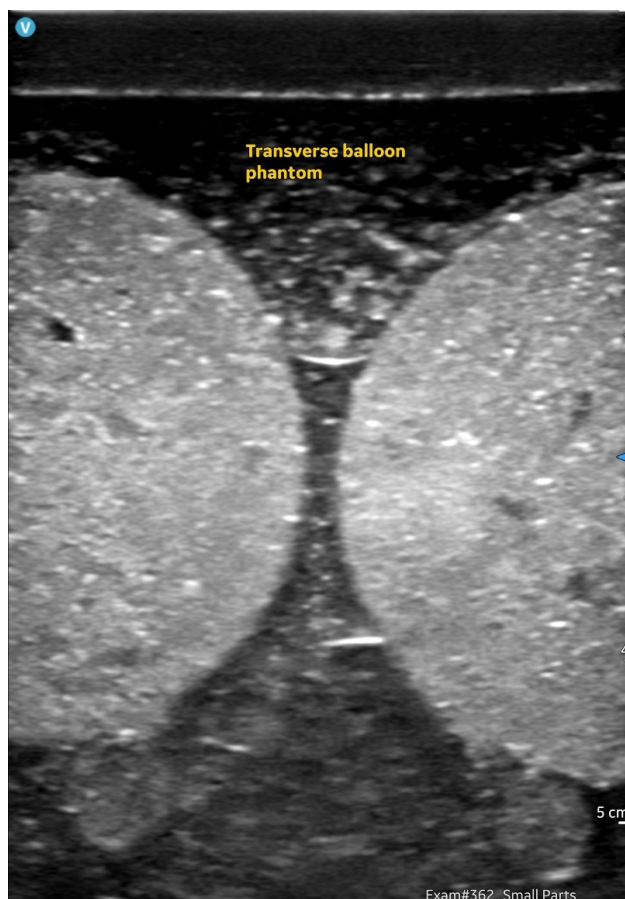
Figure 6: The finished phantom being scanned

Lessons learnt – next time I would use the party balloon and water bomb model. The paper is far too echogenic to use in a phantom.

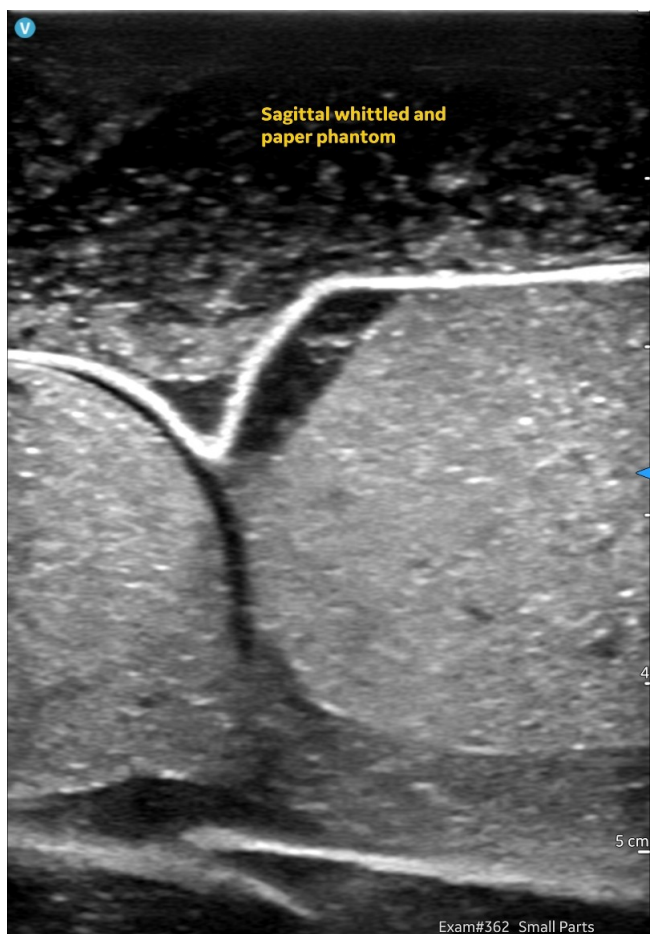
This was fine however for the quick views and talking about the introductory scrotal POCUS I required for this tutorial.



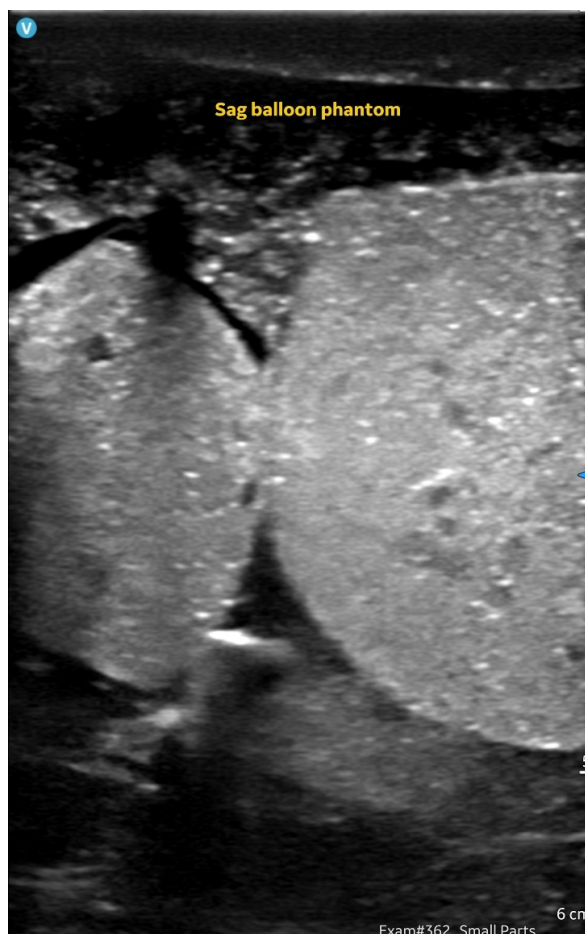
Transverse whittled with paper



Water bomb transverse



Sagittal whittled with paper



Sagittal water bomb