We are most grateful for the comments made by Valdevenito et al (REF their letter) regarding our manuscript "Diagnostic Tests for Female Bladder Outlet Obstruction: A Systematic Review from the European Association of Urology Non-neurogenic Female LUTS Guidelines Panel" (REF our paper). Their critical evaluation of the results of our systematic review suggest that of the 28 included studies in our systematic review only 3 are of sufficient quality to be considered meaningful. We followed the Cochrane Handbook while conducting this systematic review. The protocol was written *a priori* and was reviewed by the EAU Guidelines Office Methods Committee. One of the paramount principles of conducting a systematic review is to follow the protocol and 28 studies met the inclusion criteria and were included in this systematic review. Our review has highlighted

- The heterogeneity in methods used to diagnose fBOO, which in published reports have been based on a range of different criteria such as the presence of voiding symptoms, radiological findings, unstandardised pressure flow measurements and in some cases merely previous surgical history. Given the various aetiologies of fBOO, most studies tend to include poorly defined populations often containing a mixture of patients with different causative factors for possible obstruction. Without precise pre-defined inclusion criteria, study results tend to be questionable and difficult to reproduce. We would firstly call for better standardisation of fBOO research which should fundamentally include at the very least, a separation of patients with fBOO into those who exhibit anatomical (mechanical) BOO and those who exhibit functional BOO. This simple measure would help focus future studies examining diagnostic accuracy.
- The lack of consensus regarding a reference standard for the diagnosis of fBOO, as commented on in our review and highlighted by Valdevenito et al, serves to further weaken the evidence base in this topic area. There are numerous proposed diagnostic criteria for fBOO which have varying levels of agreement but a true "gold standard" has to date not been agreed. The diagnostic accuracy of investigative tests when there is no gold standard is not uncommonly encountered and most authorities would recommend using validation studies that relate index test results to relevant clinical data, such as history, future clinical events, and response to therapy. (REF - Reitsma JB, Rutjes AW, Khan KS, Coomarasamy A, Bossuyt PM. A review of solutions for diagnostic accuracy studies with an imperfect or missing reference standard. J Clin Epidemiol. 2009 Aug;62(8):797-806. doi: 10.1016/j.jclinepi.2009.02.005. Epub 2009 May 17. PMID: 19447581). This approach carries the additional advantage of assessing diagnostic accuracy based on clinically meaningful outcomes and can increase the relevance of the diagnostic test to clinical practice. (REF - Rutjes AW, Reitsma JB, Coomarasamy A, Khan KS, Bossuyt PM. Evaluation of diagnostic tests when there is no gold standard. A review of methods. Health Technol Assess. 2007 Dec;11(50):iii, ix-51. doi: 10.3310/hta11500. PMID: 18021577.). Any work that seeks to establish the relationship between diagnostic tests and clinical outcomes should first define the outcomes that are important for patients using COMET or similar approach and then these outcomes are prioritised by adopting GRADE methodology while conducting systematic review. We would therefore secondly call for further work to either define a widely agreed gold standard diagnostic criterion for fBOO or if that cannot be achieved for further work to focus on gathering evidence to support proposed diagnostic criteria in the future.

We believe that these two simple measures will both accelerate our understanding of female bladder outlet obstruction and establish useful clinical tests that will inform doctors and patients alike regarding outcomes from the range of currently available treatments for fBOO. This is why we have made a strong recommendation in the guideline (REF) to "Use standardised classification of bladder outlet obstruction in women (anatomical or functional), and research populations should be

fully characterised using such classification". We thank Dr Valdevenito and colleagues once again for continuing this important debate.