Objective
Possible transtubal spillage of malignant cells is a major concern in fluid instillation sonography, as it is in hysteroscopy. This study aims to compare the transtubal flow of gel and saline and validate the clinical hypothesis that application of fluids with higher viscosity requires less fluid and causes less spillage.

Methods
Randomized controlled in vitro trial comparing gel and saline infusion on 15 tissue specimens after hysterectomy with bilateral salpingectomy. Instillations are performed with saline and gel dyed with a 1% ink solution. Qualitative assessment of tubal spill is investigated as primary outcome. Secondary outcomes are instillation-volume and -pressure, assessed by measuring endometrial cavity dilation at in vitro ultrasound examination and subjective numeric 10-point scoring of the instillation pressure by a dedicated examiner.

Results
Tubal patency was more often observed during saline instillation (OR 4.88)(Fig.1). Median subjectively assessed instillation pressures were 9 arbitrary units for gel and 3 for saline (Fig. 2). Tubal patency occurred from 2cc onward in the saline group versus 5cc in the gel instillation group (Fig. 3).

Conclusion
Gel is associated with decreased tubal spillage and is therefore safer.