
Septate uterus: Metroplasty Ambulatory Hysteroscopy and cold scissors

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Leuven - Belgium

European
+theAcademy of
Gynaecological
Surgery

Female and male surgery in human
reproductive medicine

ESHRE Campus symposium, Treviso, Italy, 8-9 October 2010

Congenital anomalies of the uterus

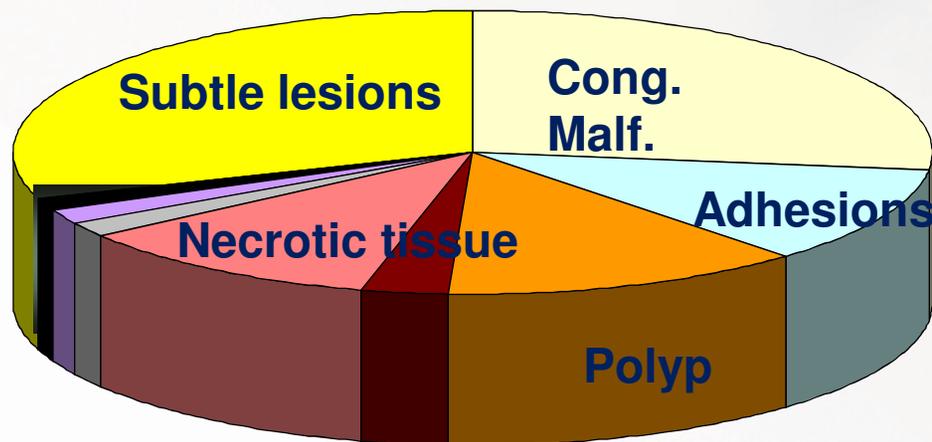
Incidence

- Overall 5%
- Fertile women 2-3%
- Infertile women 3%
- Women with recurrent miscarriage 5-10%
- Women with late miscarriages and preterm deliveries >25%

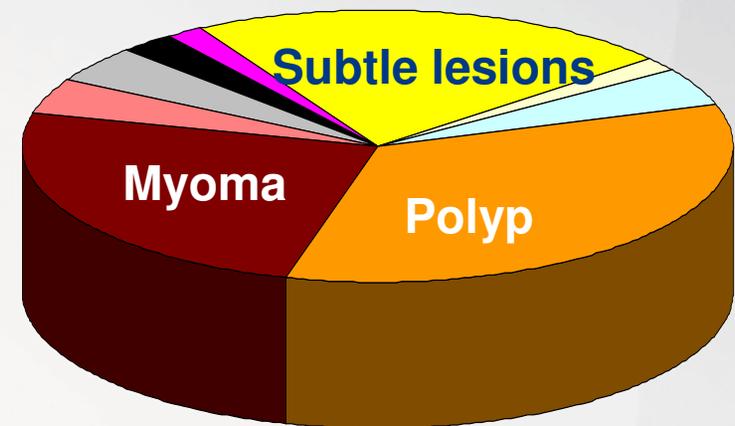
Prospective multi-centre randomized clinical trial

Incidence of congenital malformation in infertility patients is significantly higher than in patients with AUB

Infertility



Abnormal uterine bleeding

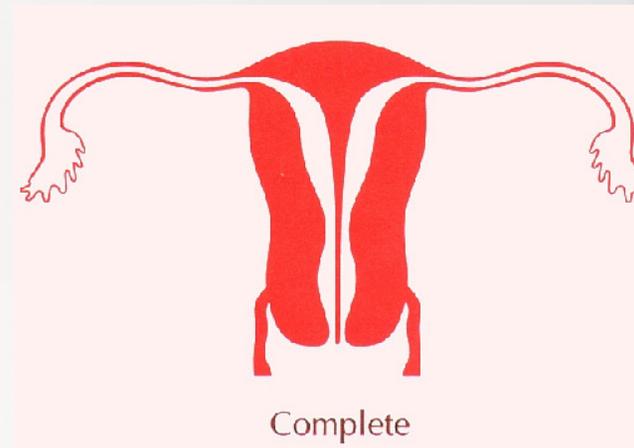
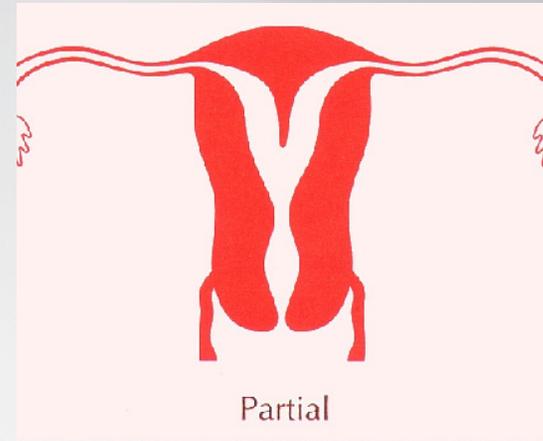


Incidence of congenital anomalies in 530 consecutive HSC in the LIFE institute

Malformation	N	%
Uterus septus	44	63
T-Shaped	23	33
Uterus unicornis	3	4
	70	100

Uterine Septum

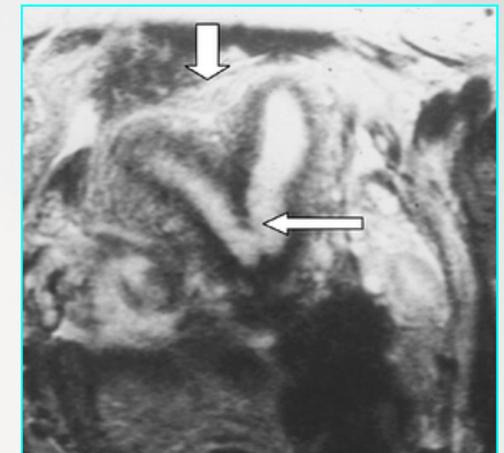
- Lack of resorption of the midline septum.
no major vascularisation should be expected
- Insufficient fusion of the ducts.
possible strong vascularisation
Uterine outer anatomy ?



Septate Uterus

Possible clinical manifestation ?

- Reduced implantation rate
- Recurrent abortion
- Late abortion
- Partus prematurus
- Dystocia



Uterine Septum and implantation after IVF

	uteroplasty	control
➤ Pregnn.rate	20%	12.5%
➤ Impl. Rate	10.5%	4.6%

Metroplasty significantly increases live birth rate In patients with recurrent miscarriage

	Pre-operative	Post-operative
Patients	43	31
Pregnancies	117	37
• abortions	*104 (88,9%)	*5 (13,5%)
• premature	6 (5,1%)	5 (13.5%)
• at term	7 (6,0%)	27 (73%)
• children alive	*12 (10,2%)	*32 (86,5%)

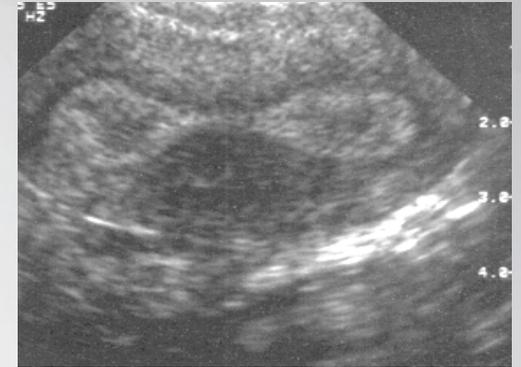
Uterine Septum and reproductive performance

Among the congenital uterine malformations, the septate uterus is associated to the highest rate of damage of the reproductive capability but there is no scientific evidence that the presence of a septum certainties reproductive problems

One Stop Uterine diagnosis

Ultrasound

Measure fundal myometrial thickness
Identify double endometrial echo



Fluid Mini-Hysteroscopy

Compartmentalisation of uterine cavity.

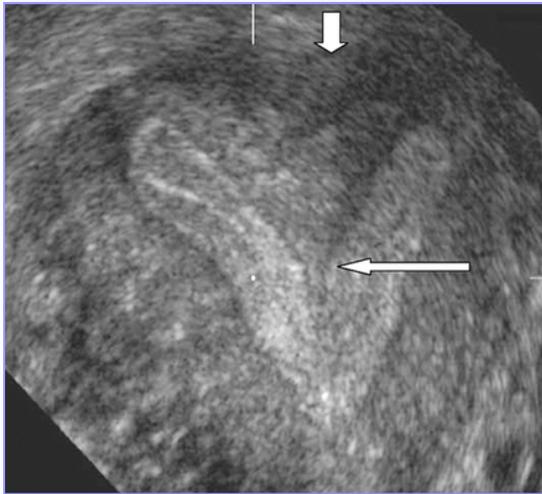
Kontrast sonography

Confirm cavity form and measure
myometrial thickness?



Diagnostic Procedure congenital malformation

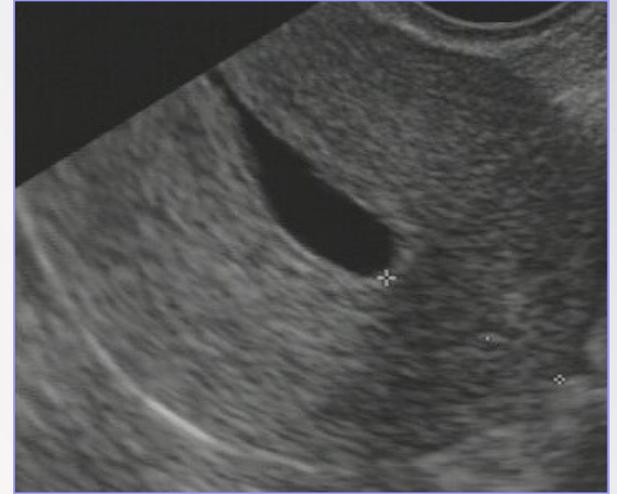
Trans vaginal
Ultrasound



Fluid
Mini Hysteroscopy

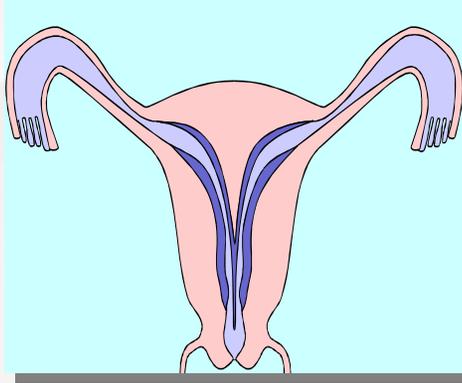


Kontrast
Sonography

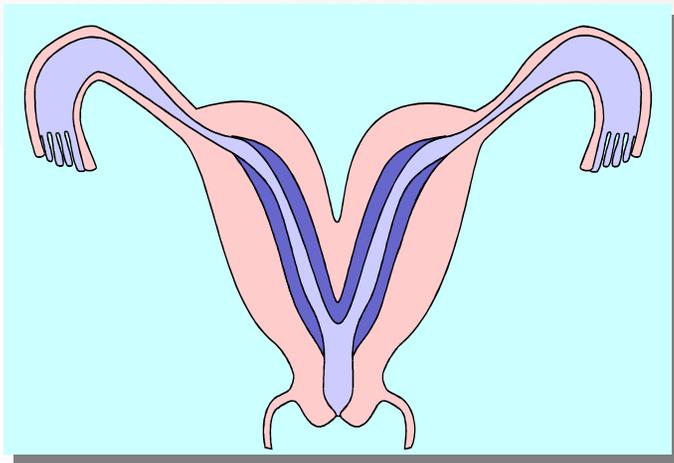
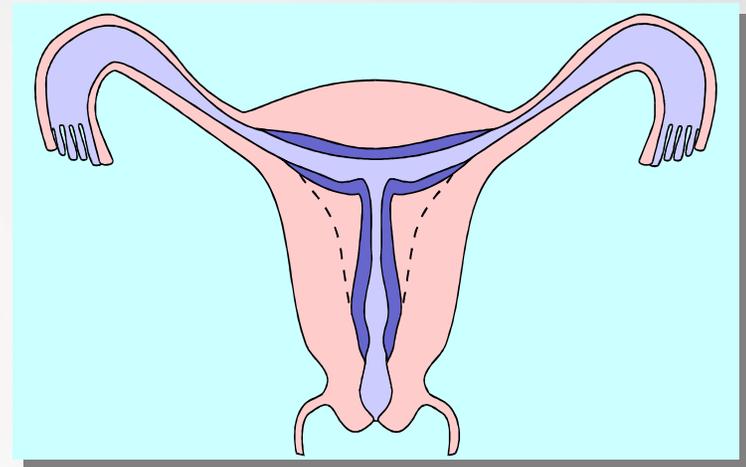


Differential Diagnosis septate uterus

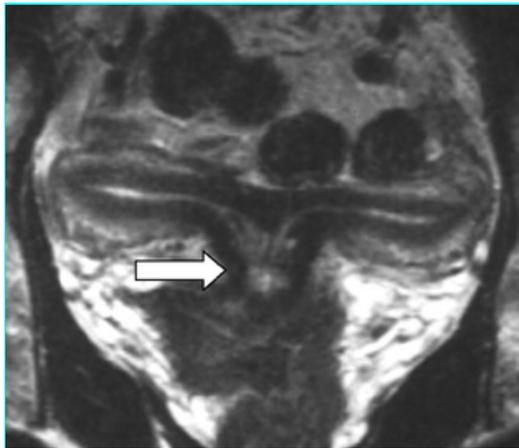
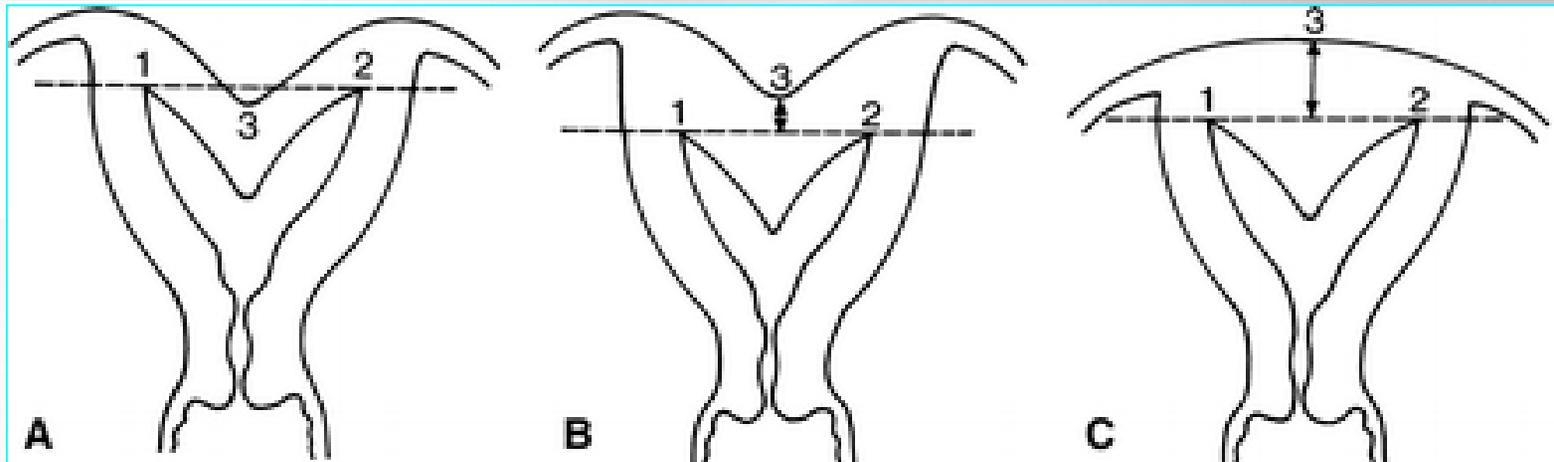
Bicorne uterus



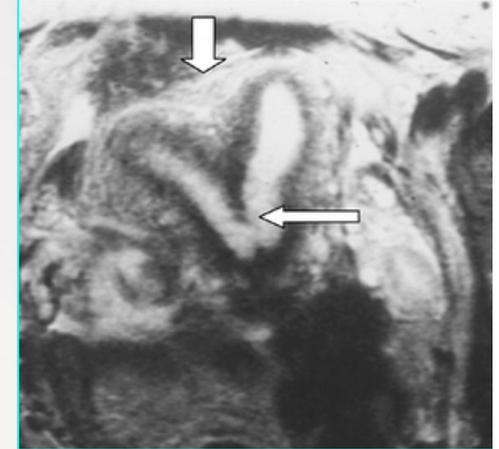
T shaped uterus



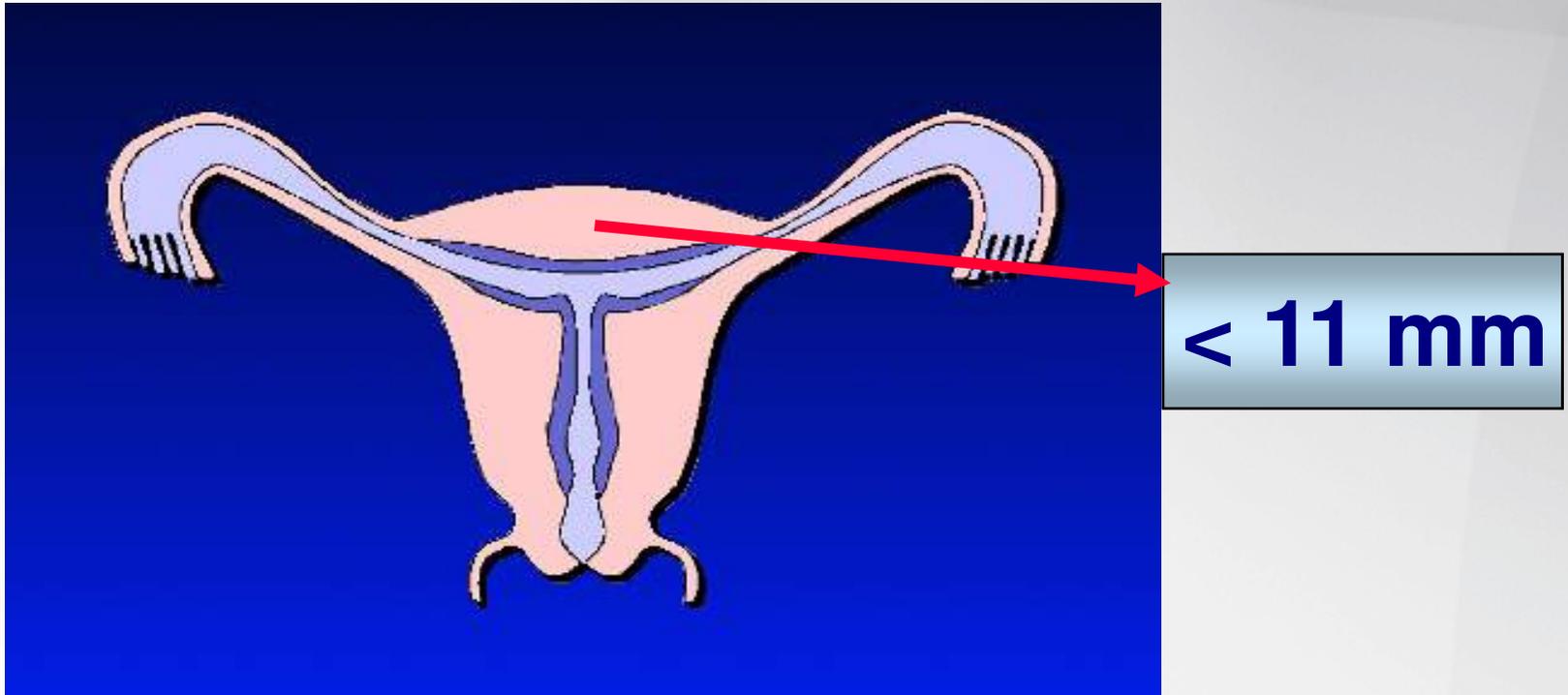
TVS : Bicornuate vs. Septate



- Ortogonal view along the long axis
- Straight line between the tubal ostia (1, 2) and apex of the fundal external contour (3)
- Bicornuate: (A) below the line or (B) up to 5 mm above
- Septate: more than 5 mm above (C)

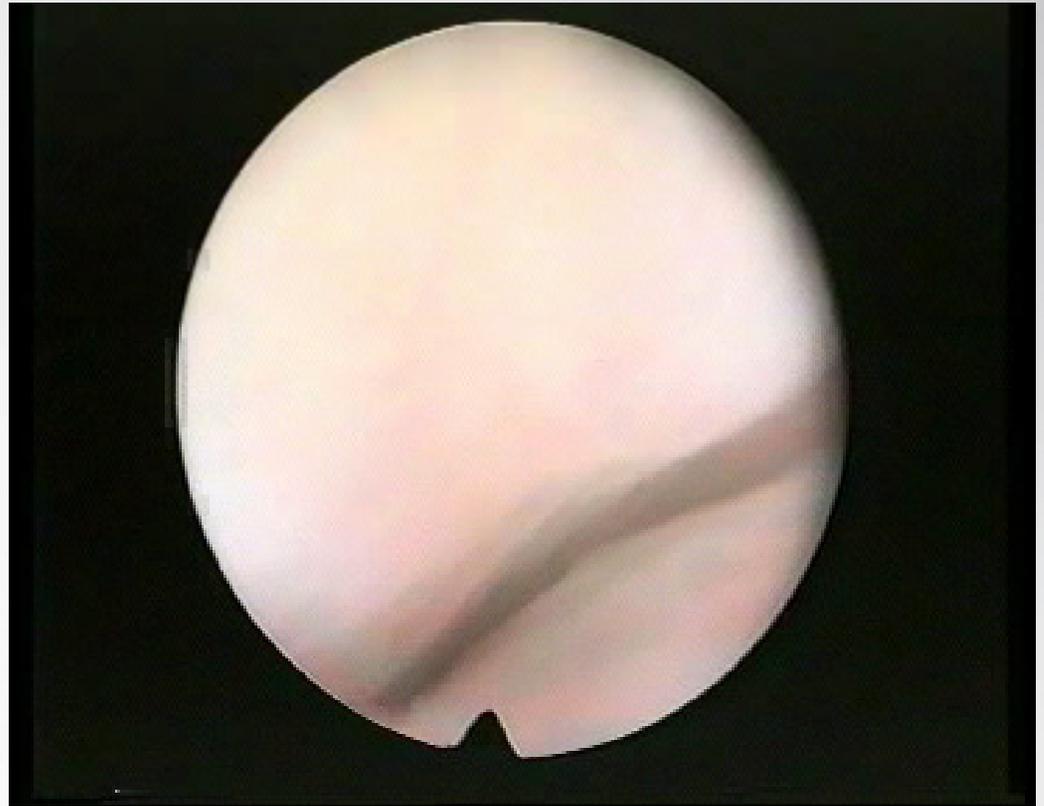
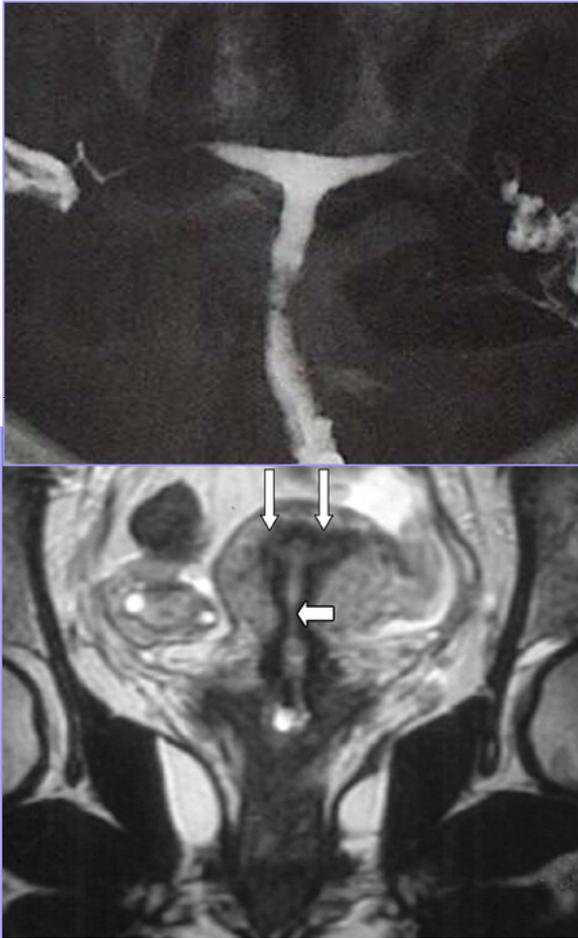


TVS : T shaped uterus versus septate



Ultrasound fundal myometrial thickness < 11 mm

T – Shaped uteri



Metroplasty, Scientific evidence ?

Hysteroscopic resection of the septum improves the pregnancy rate of women with unexplained infertility: a prospective controlled trial.

Motto A. et al. Fertil. Steril. 2009 May ; 91 (5)

Small uterine septum is an important risk variable for preterm birth.

Tomasevic T. et al. Eur J Obstet Gynecol Reprod Biol. 2007 Dec;135(2):154-7

Hysteroscopic metroplasty improves gestational outcome in women with recurrent spontaneous abortion.

Valli E., J Am Assoc Gynecol Laparosc. 2004 May;11(2):240-4.

Hysteroscopic metroplasty

When should we operate?

Women with long-standing unexplained infertility

Recurrent miscarriage

Women > 35 years of age and infertility problem

Women in whom assisted conception is being contemplated

Hysteroscopic metroplasty

How should we operate?

1. Partial septa : microscissor
2. Total or large septum :
microscissor and bipolar needle or resectoscope
3. Diagnostic uncertain situations
DD bicorn versus septum: Resectoscope under
laparoscopic guidance.
DD T shaped uterus – subseptus: microscissor

Ambulatory operative Hysteroscopy

4 important conditions

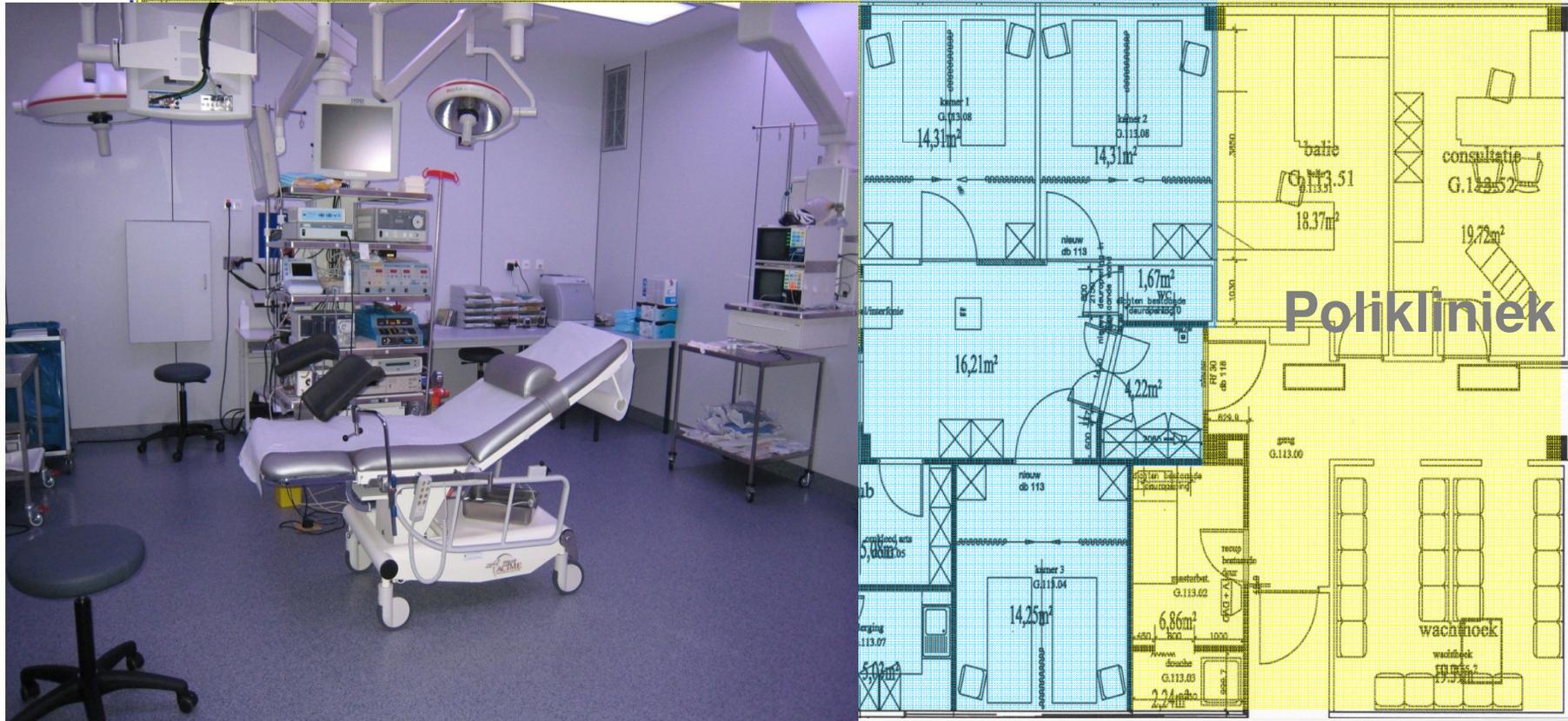
Ambulatory or office endoscopic unit

Watery (Saline) distension medium

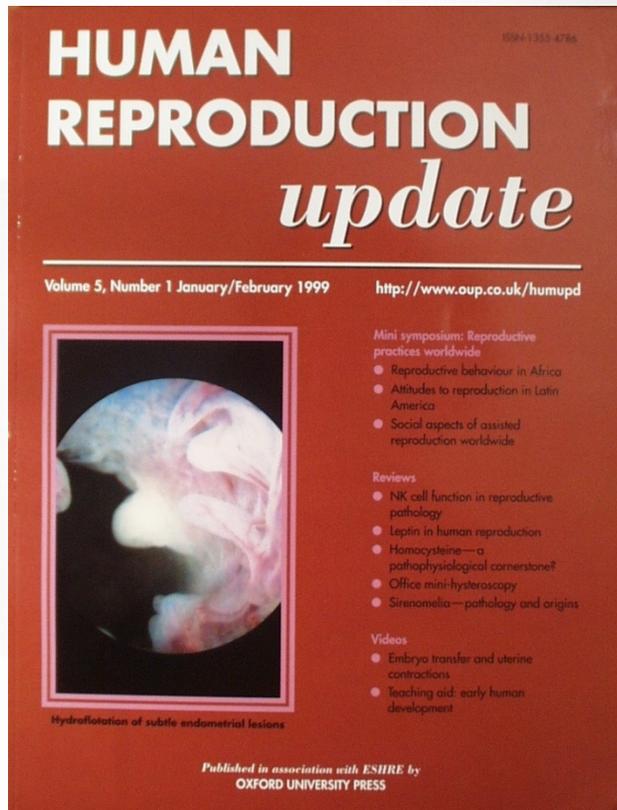
Small diameter instrumentation with high optical quality

Mechanical and Bipolar Surgery with atraumatic
technique

Ambulatory endoscopic – IVF unit



Watery distension medium



Grade A evidence
Less painful than CO₂

Hydro-flotation
subtle lesions !!

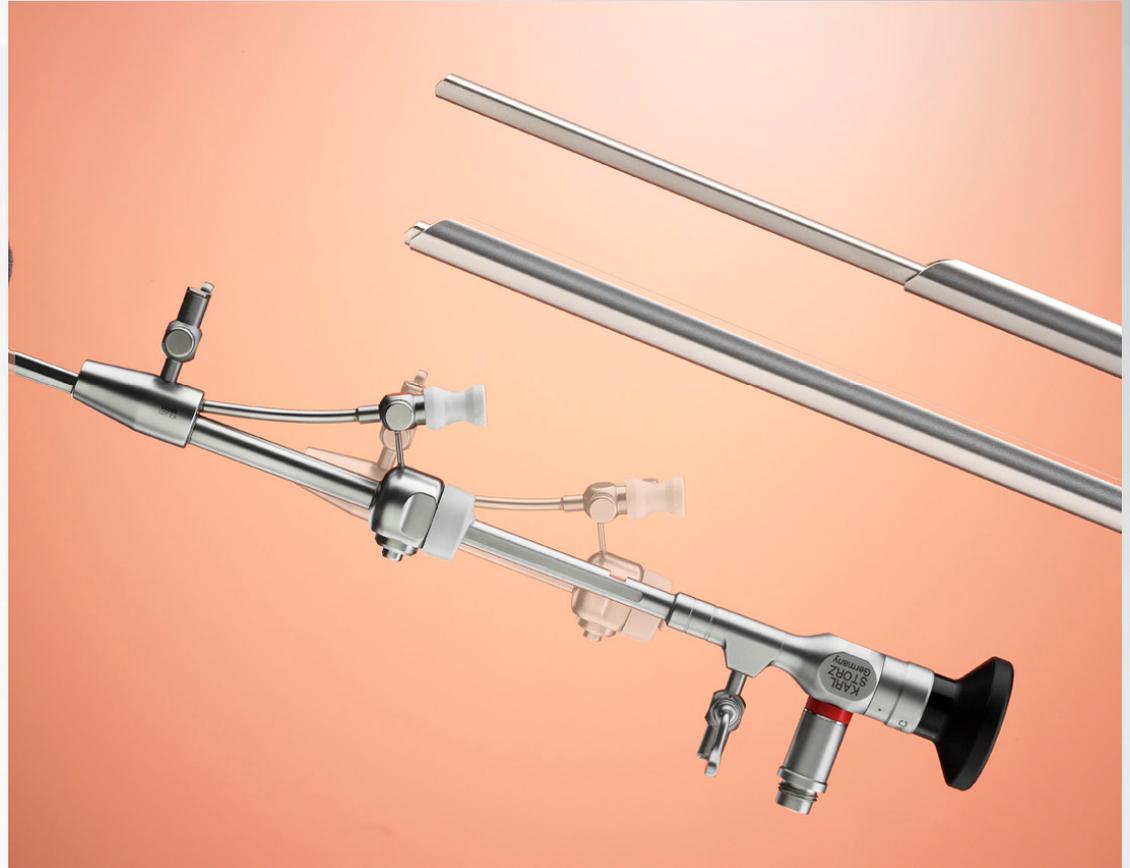
Saline for bipolar
surgery

Small diameter instrumentation with high optical quality

Trophy Scope

New generation of hysteroscope with interesting characteristics

Gliding system provides Diagnostic (2,9 mm) and Operative (4,4 mm) possibilities in one instrument



Characteristics of Trophy Scope

Always diagnostic procedure with 2,9 mm single flow compact scope.

New design of instrument and tip of the scope results in
reduced trauma and smooth passage through cervical canal
no sticking of tissue to the optic
comfortable instrument handling.

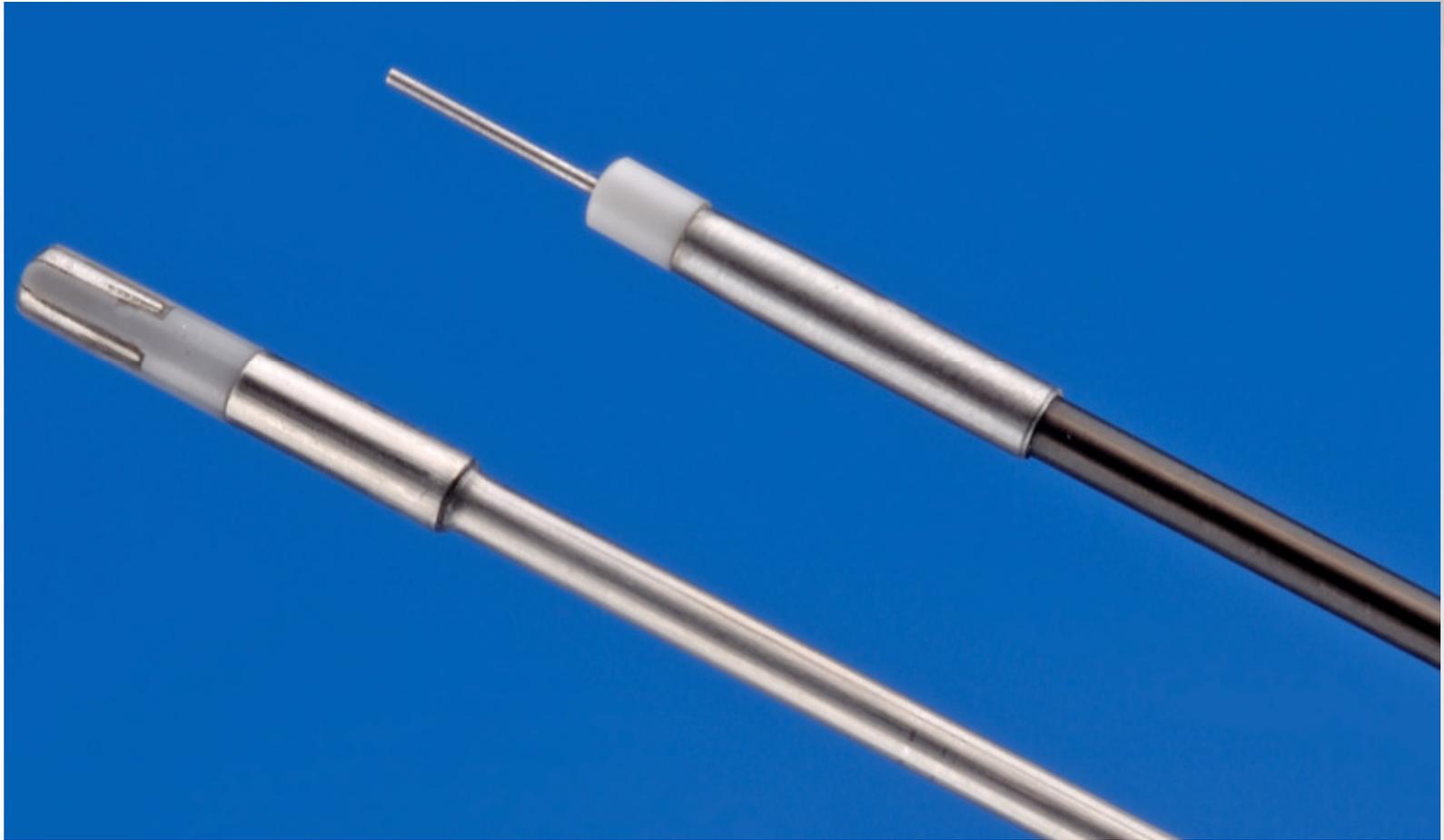
Operative sheet in passive position does not interfere the diagnostic phase (2,9mm). In case of surgery, the operative sheet (4,4 mm) with double flow can be introduced without instrument removal.

Sterilized within 5 minutes: compatible with high level disinfectant "TRISTEL FUSE®".

5 French Mechanical probes

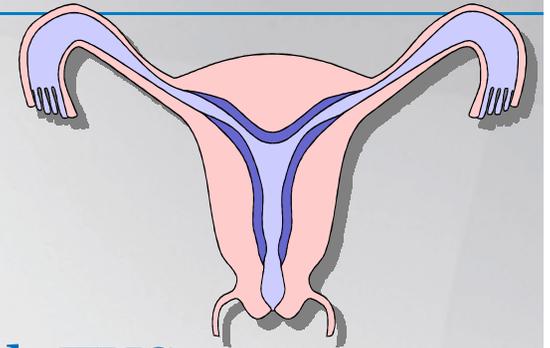


5 French Bipolar probes



Uterine septum dissection using the cold scissors

Procedure



Measure fundal myometrial thickness with TVS

Put a reference mark 5 mm under the tubal ostia

Perform the septum incision unifying both reference marks

Measure fundal thickness which should be minimal 10 mm

CONTROL DEPTH OF DISSECTION

ULTRASOUND

- Measurements of fundal myometrial thickness

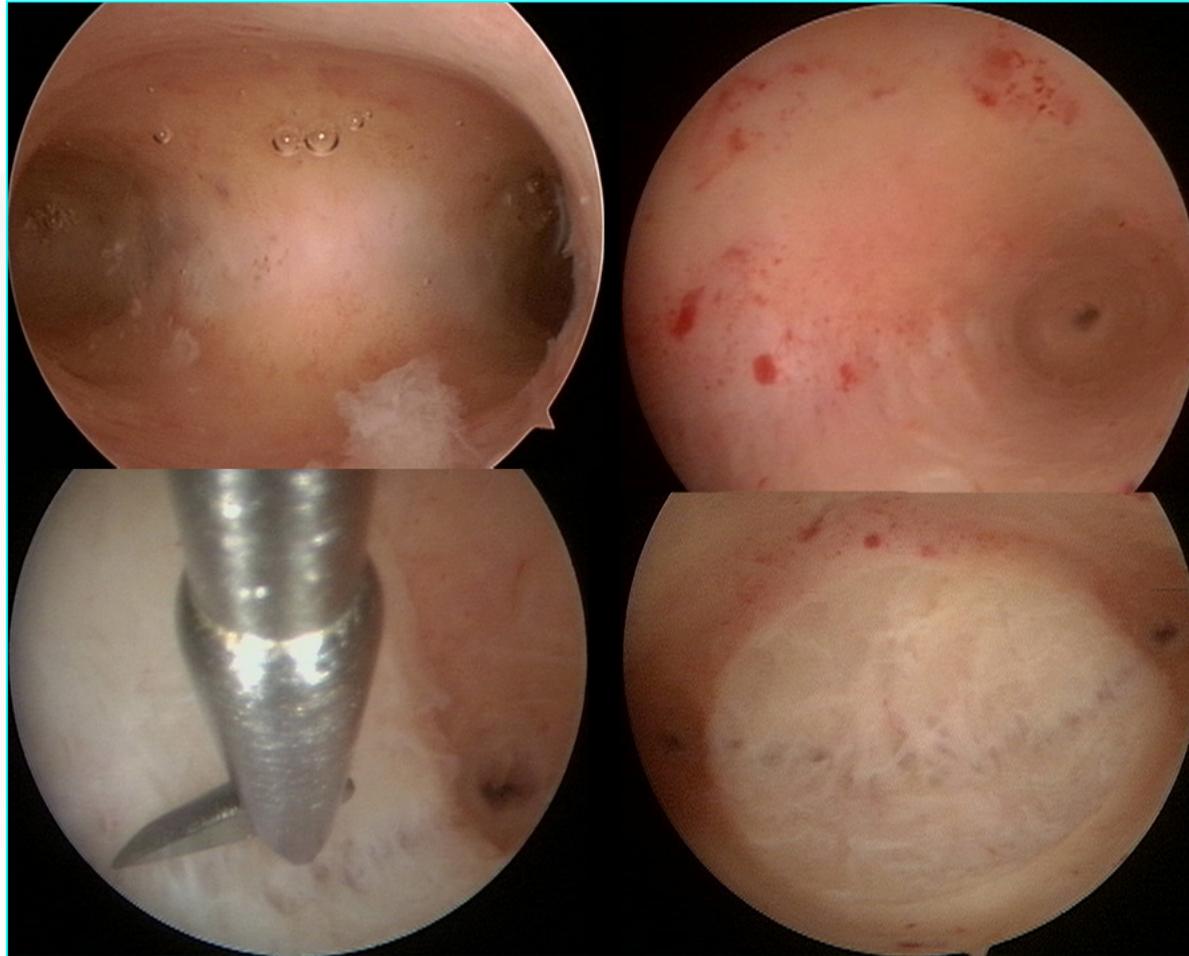
Myometrial vascular pattern in section plane

Direct visual control during dissection with
microscissor

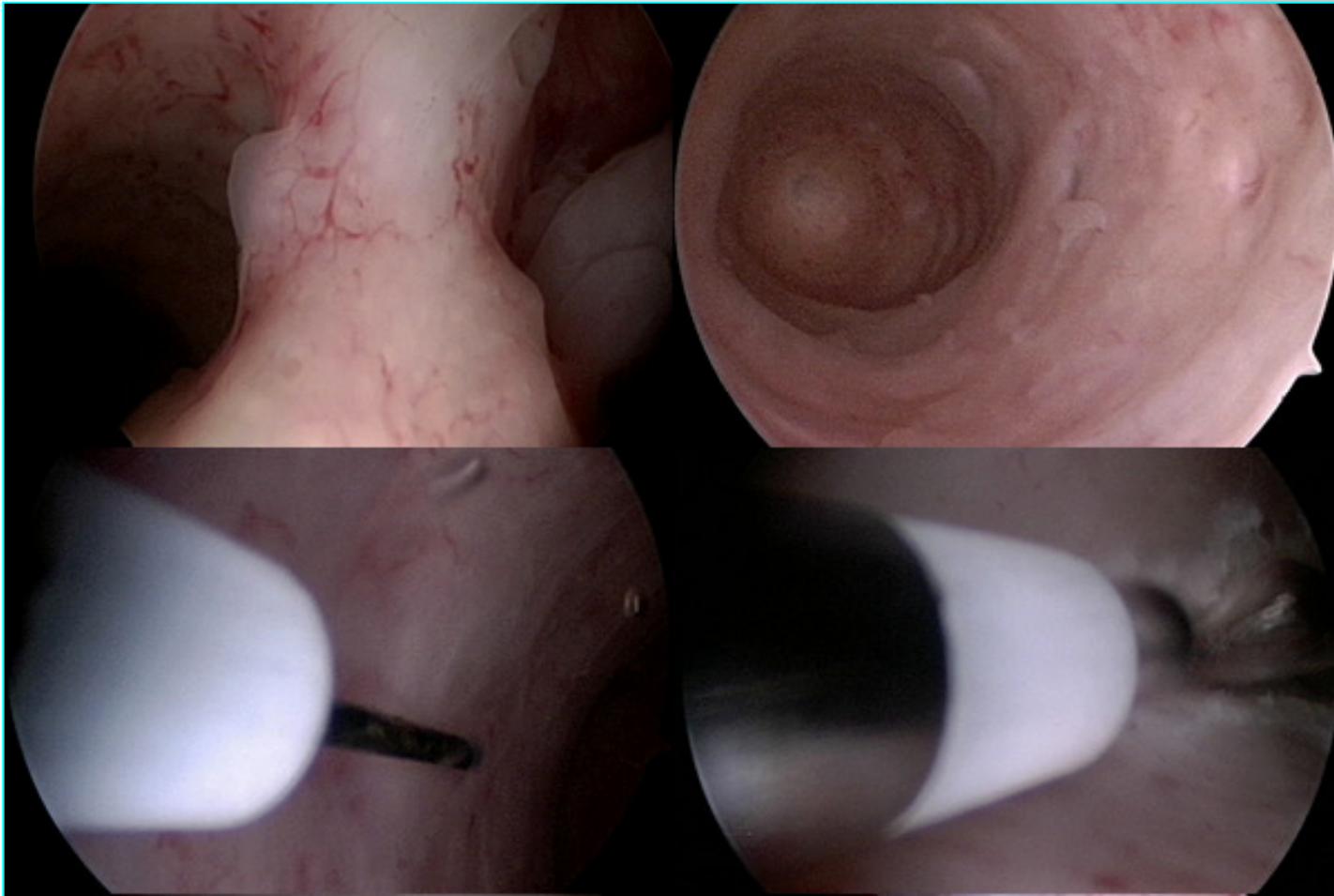
LAPAROSCOPY - HYSTEROSCOPY

Transillumination test

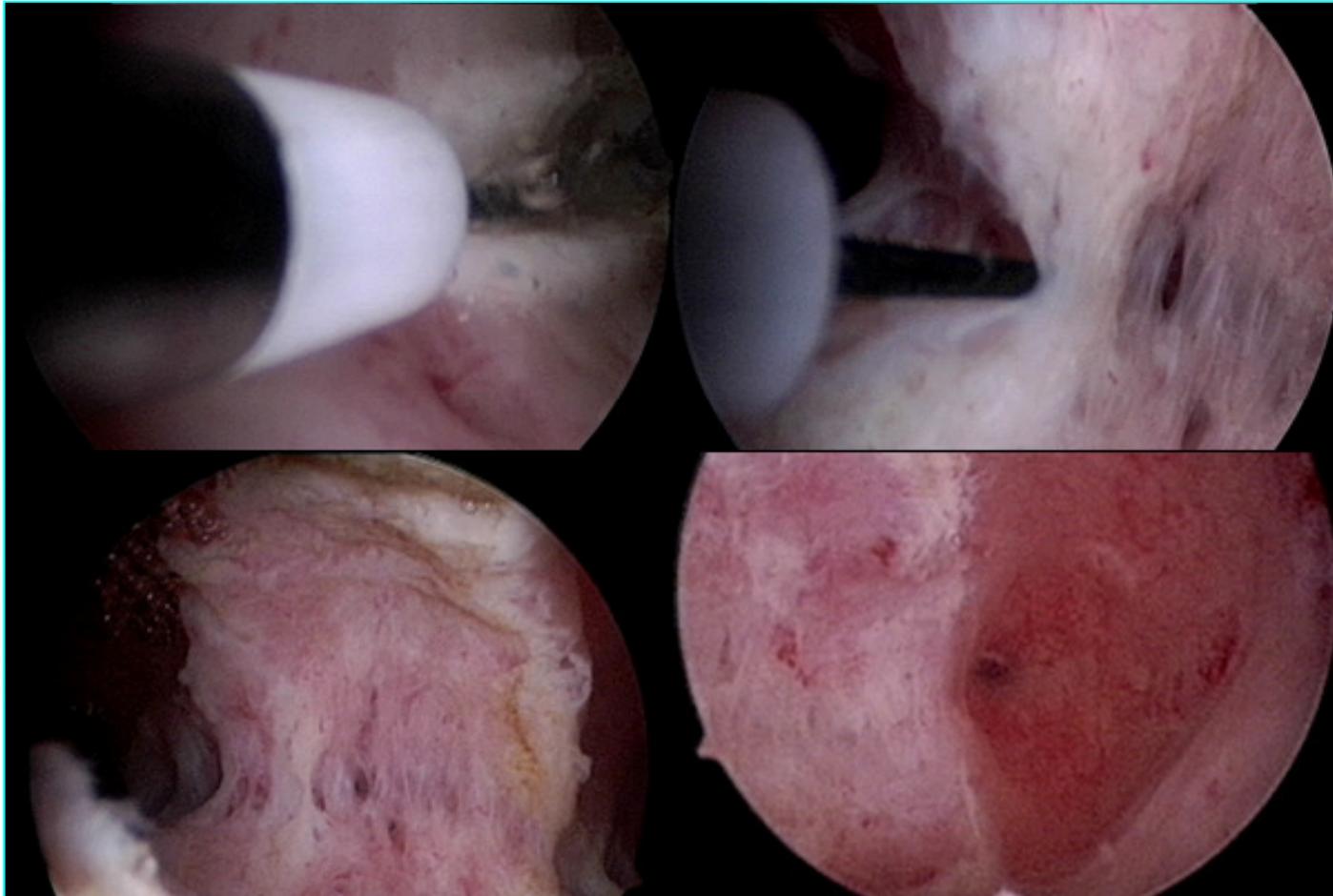
Uterine septum dissection using the cold scissors



Uterine septum dissection using the Bipolar needle



Uterine septum dissection using the Bipolar needle



Myometrial exploration using the cold scissors or bipolar needle

Subtle structural lesions of the cavity form

- Arcuate uterus
- T shaped uterus

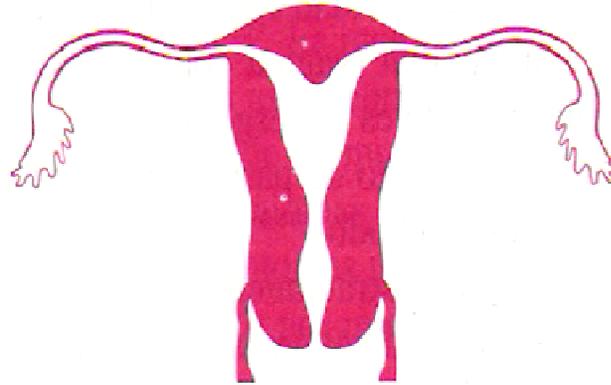
Unclear clinical significance

Hysteroscopic exploration of the sub endometrial myometrium with formation of a pear like shaped cavity.

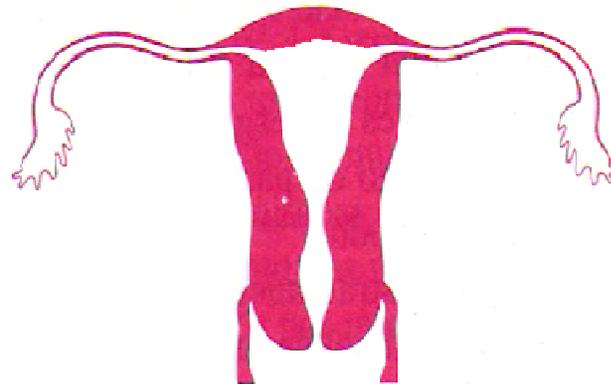
Controversial idea ?

Arcuate Uterus

Uterus Arcuatus

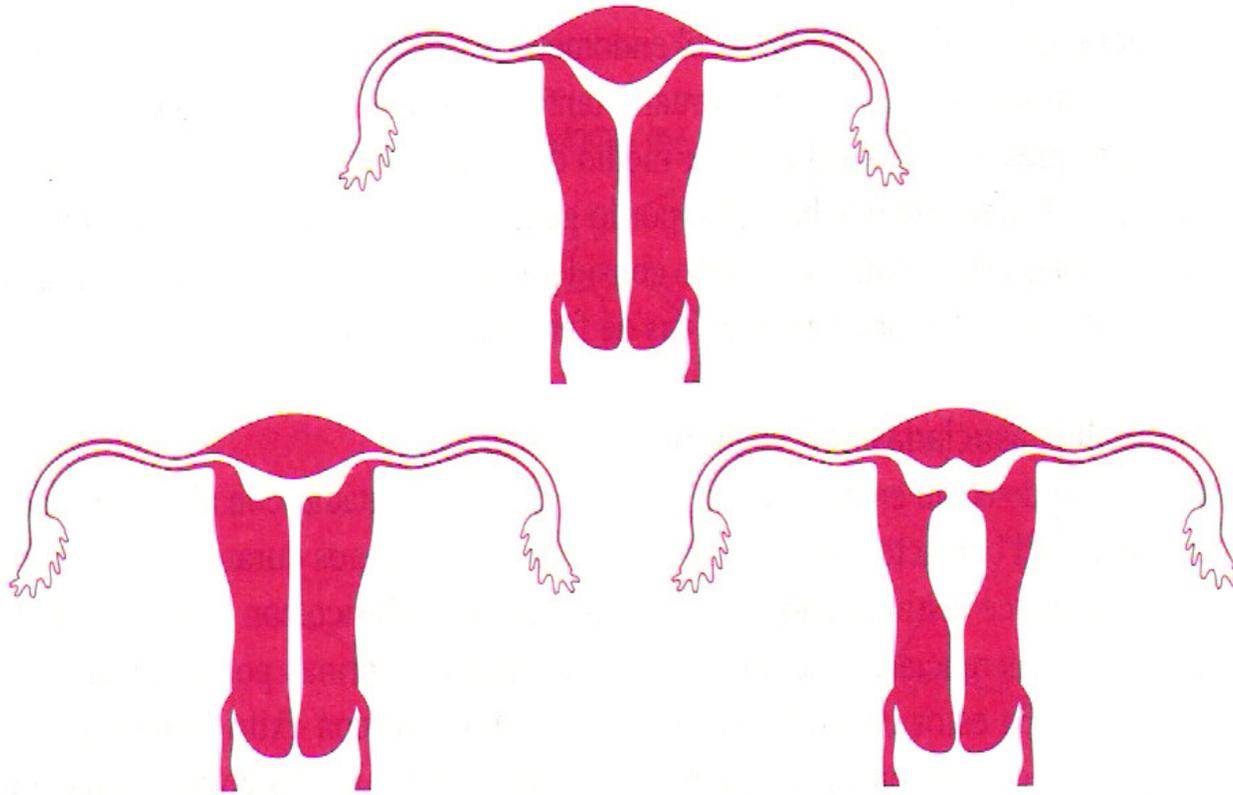


Uterus Arcuatus



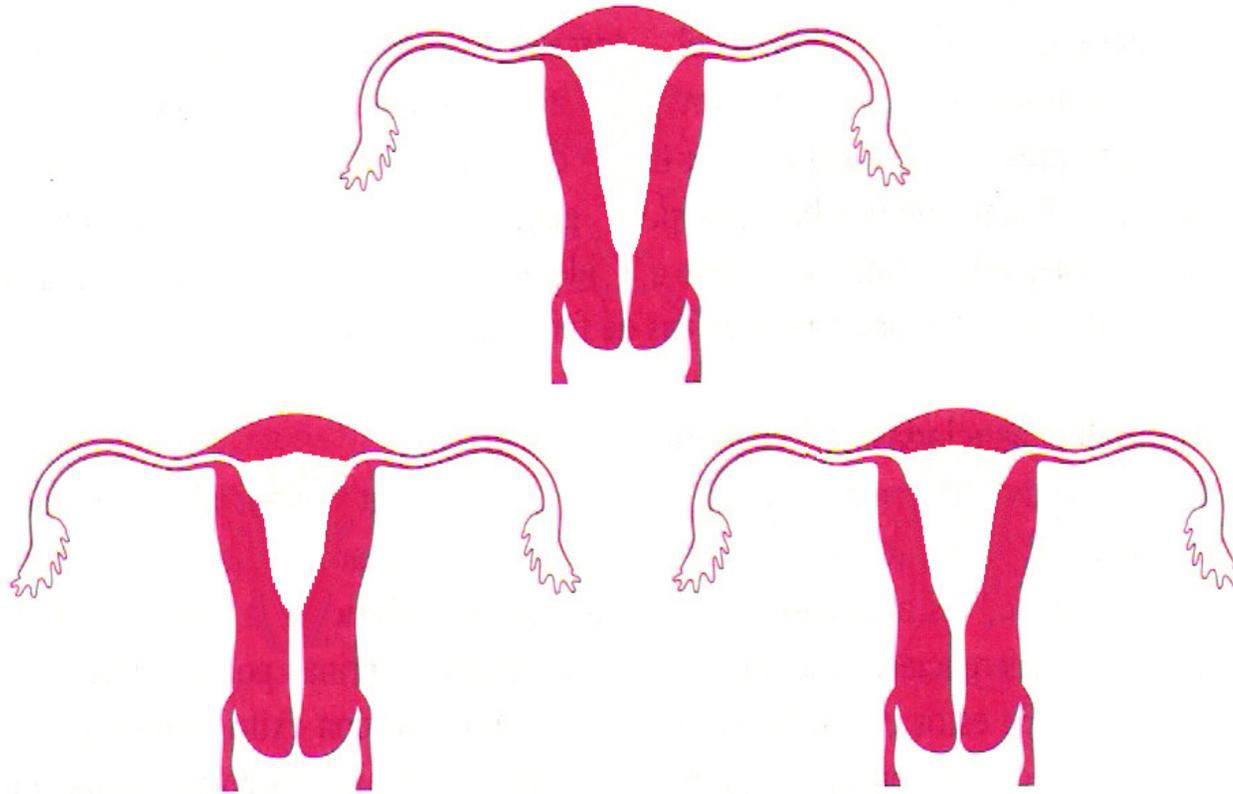
T Shaped or DES uterus

T Shaped uterus

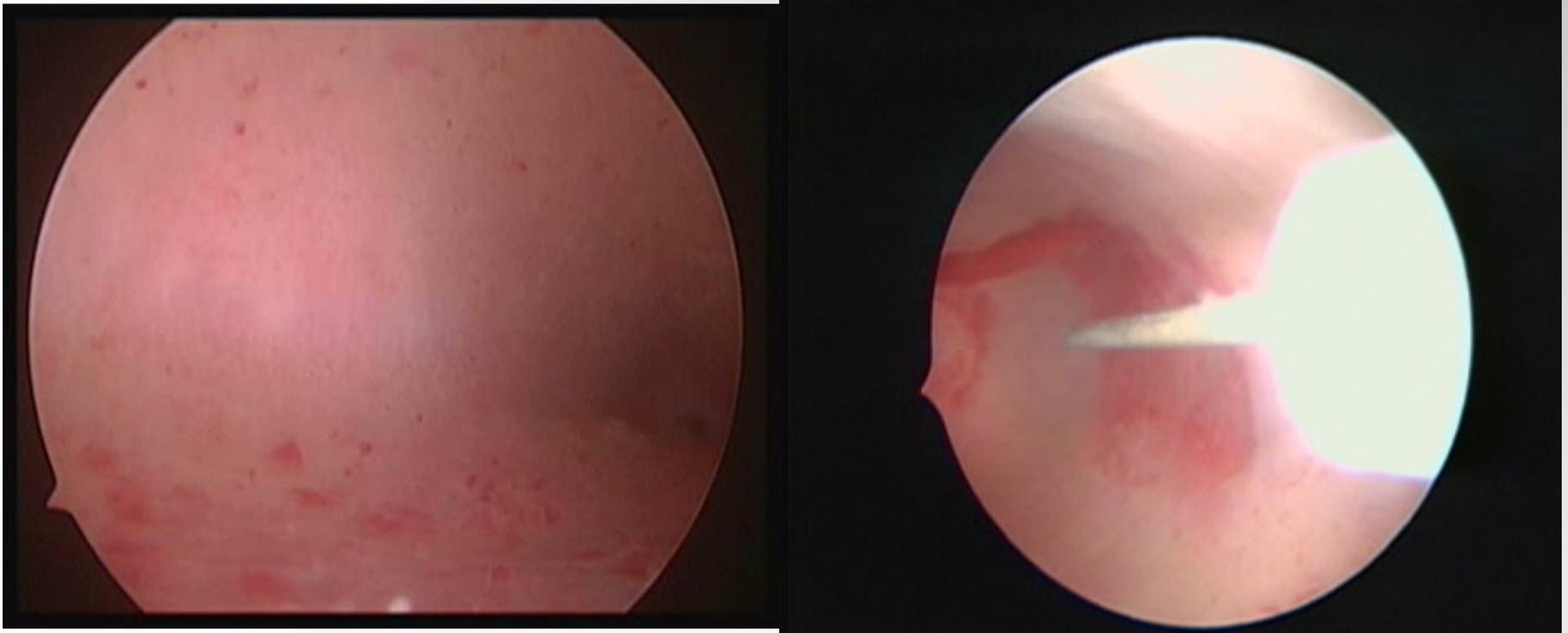


T Shaped or DES uterus

T Shaped uterus



Exploration of fundal and lateral myometrium



Conclusions 1

Diagnostic fluid mini - hysteroscopy is an accurate diagnostic tool accessible to all Gynecologists (Grade A evidence).

The one stop uterine diagnosis combines the transvaginal ultrasound, fluid mini hysteroscopy and contrastsonography to improve the accuracy of uterine diagnosis.

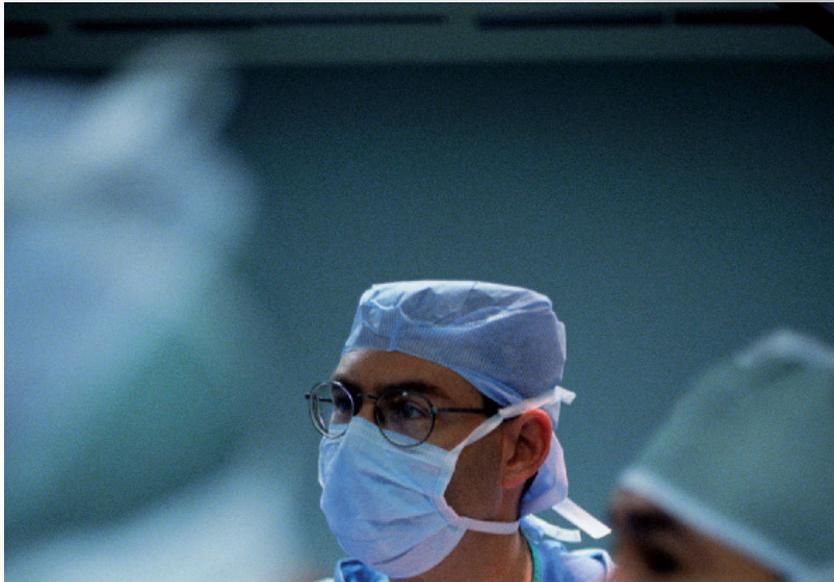
Fluid mini hysteroscopy with concomitant ultrasound offers a new minimal invasive dimension to explore the sub endometrial myometrium in an out patient or ambulatory procedure.

Conclusions 2

See and treat can be done in an ambulatory environment under conscious sedation or local anaesthesia with the use of mechanical or bipolar energy.

In the field of reproductive medicine the indications for the minimal invasive hysteroscopic surgery are significant and increasing.

In our hands the dissection of uterine septa, correction of T shaped uterus, resection of myoma and treatment of Asherman syndrome is done in this set up.



Endoscopy
Courses
2008

+theAcademy

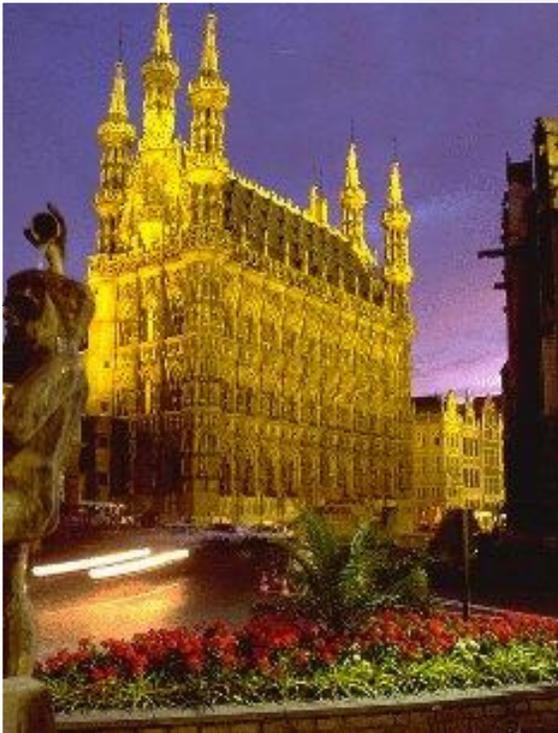


**More info on the
training programmes
in endoscopic surgery:**

**info@theacademyhouse.org
www.theacademyhouse.org**

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Leuven Institute for Fertility & Embryology



Rudi Campo
Stephan Gordts
Patrick Puttemans
Roger Molinas
Sylvie Gordts
Marion Valkenburg
Ivo Brosens

