

FEMALE STERILIZATION REVERSAL VERSUS IVF

Sylvie Gordts
Treviso 2010

Introduction

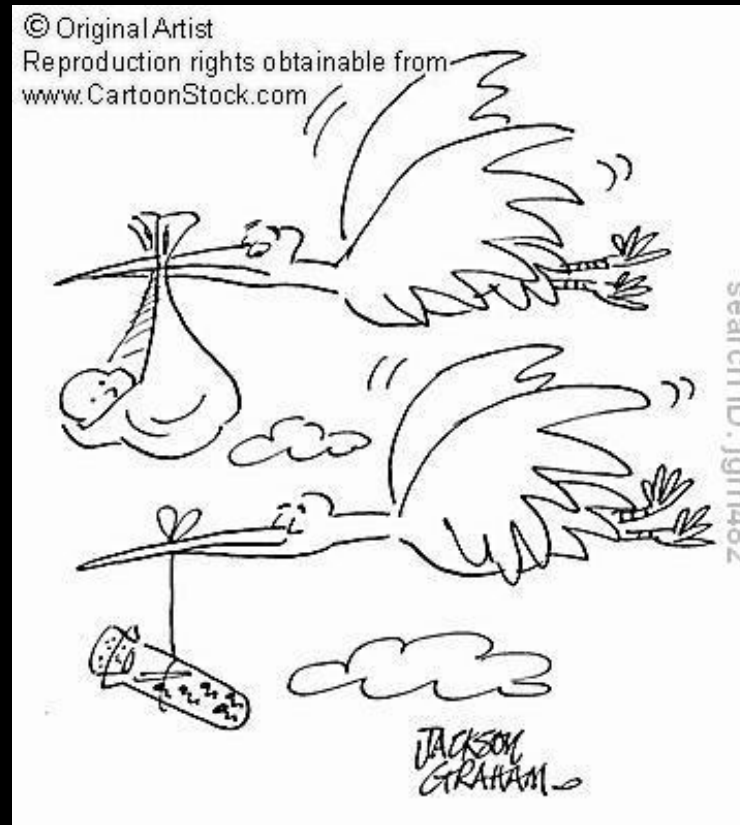
- ◎ Technique of sterilization reversal
- ◎ Results of reversal
- ◎ Factors influencing results
- ◎ IVF
- ◎ Conclusion



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IVF or sterilization reversal?



- © What will influence the decision?



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Female sterilization reversal

- ◎ 3-8% of women express regret.
- ◎ History:
 - ◎ Results of tubal reversal dramatically improved with the introduction of microsurgical techniques.
 - ◎ Start of IVF as an alternative to tubal infertility.
 - ◎ Laparoscopic tubal reversal

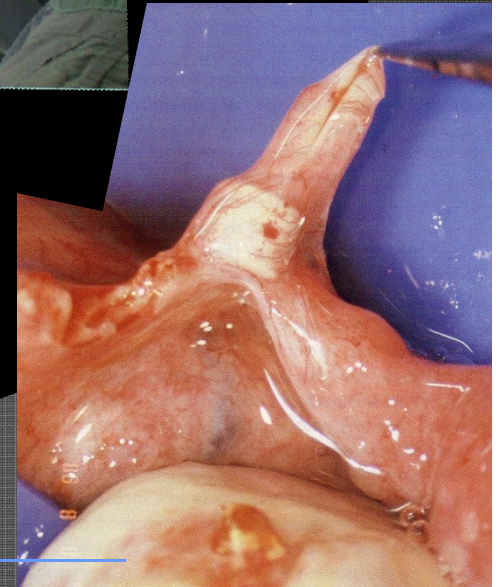
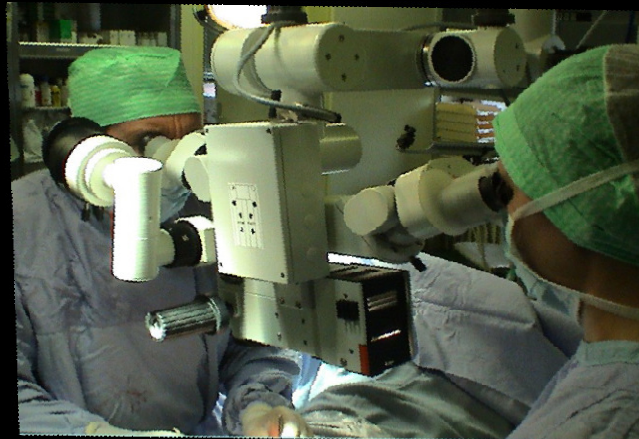


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Sterilization reversal: Microsurgical techniques

- ⊙ A mini-laparotomy - The uterus and adnexa were exteriorised
- ⊙ operating microscope
- ⊙ Continuous irrigation
- ⊙ Preparation of the healthy tubal segments.

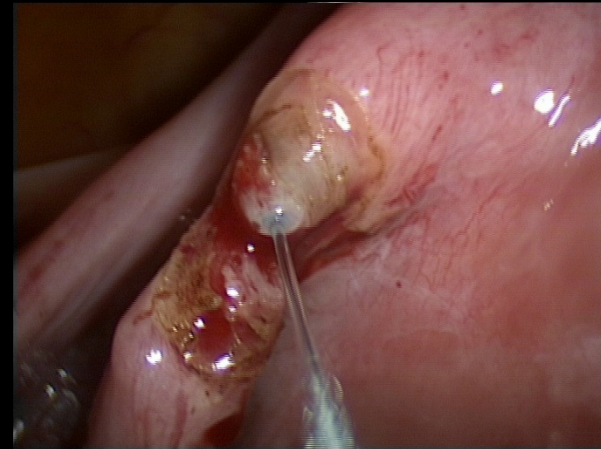


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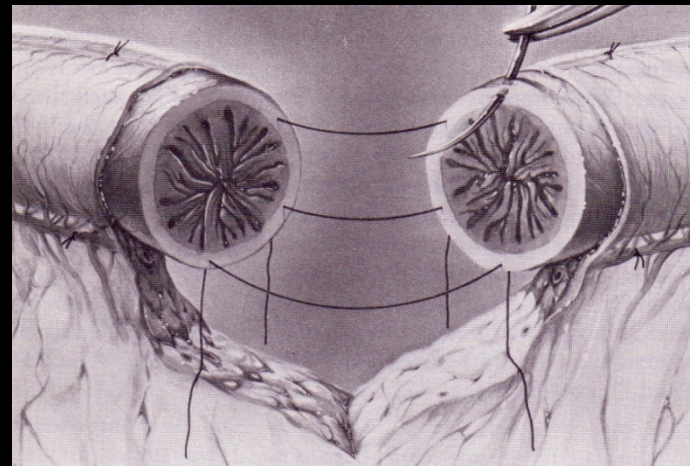
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Sterilization reversal: Microsurgical techniques

- A tubal splint or methylene blue can be used



- A two-layer technique
- 8-0 ethilon
- Interrupted sutures
- in myosalpinx

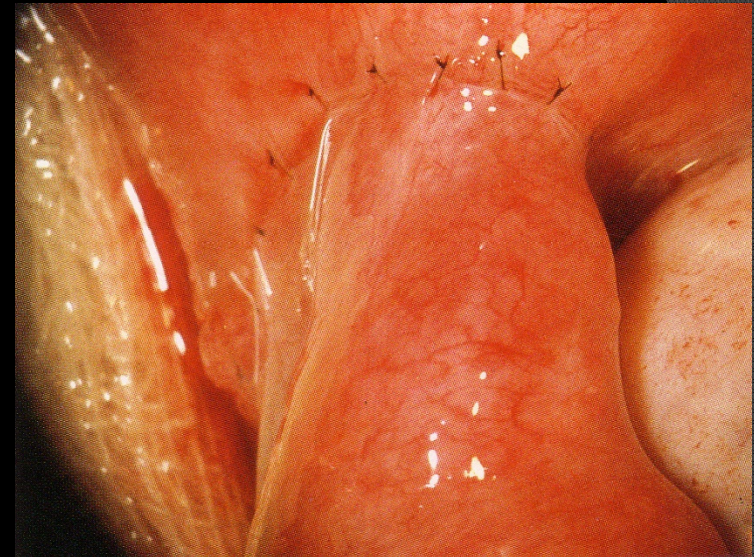
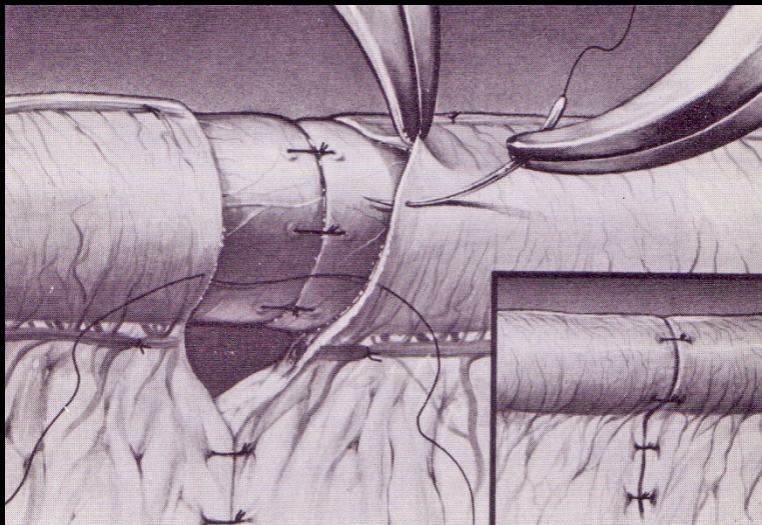


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Sterilization reversal: Microsurgical techniques

- Interrupted sutures in tubal serosa and mesosalpinx



- No prophylaxis with antibiotics was given
- Hospital stay of 2-3 days



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Results: Retrospective study

- 261 interventions - lost of follow-up 34% - 172 ptn evaluated
- Mean age was 33,8 years (SD +/-4,8).
- Tubal sterilization had been carried out using various methods:
 - Pomeroy technique in 2%,
 - Falope-ring in 54%,
 - Clips in 23%
 - Electro coagulation in 13%.



Retrospective study

- ◎ 129 pregnancies.
 - IUP rate was 72,5%
 - live birth rate of 60%.
 - Spontaneous abortion occurred in 18%
 - EUP in 7,7 %
 - in first 6m: 1 EUP – after 6 m:17% EUP
- ◎ Mean time between intervention and conception was 8,4 months.



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Literature overview

Laparotomy

	Pregnancy rate
Winston	69%
Gomel	80%
Boeckx	90%
Dubuisson	70%

Laparoscopy

	Technique	Pregnancy rate
Yoon	2 layer	87%
Koh	2 layer	71%
Dubuisson	Single suture	53%
Wiegerinck	Suture less	45%
Degueldre	Robot	71%



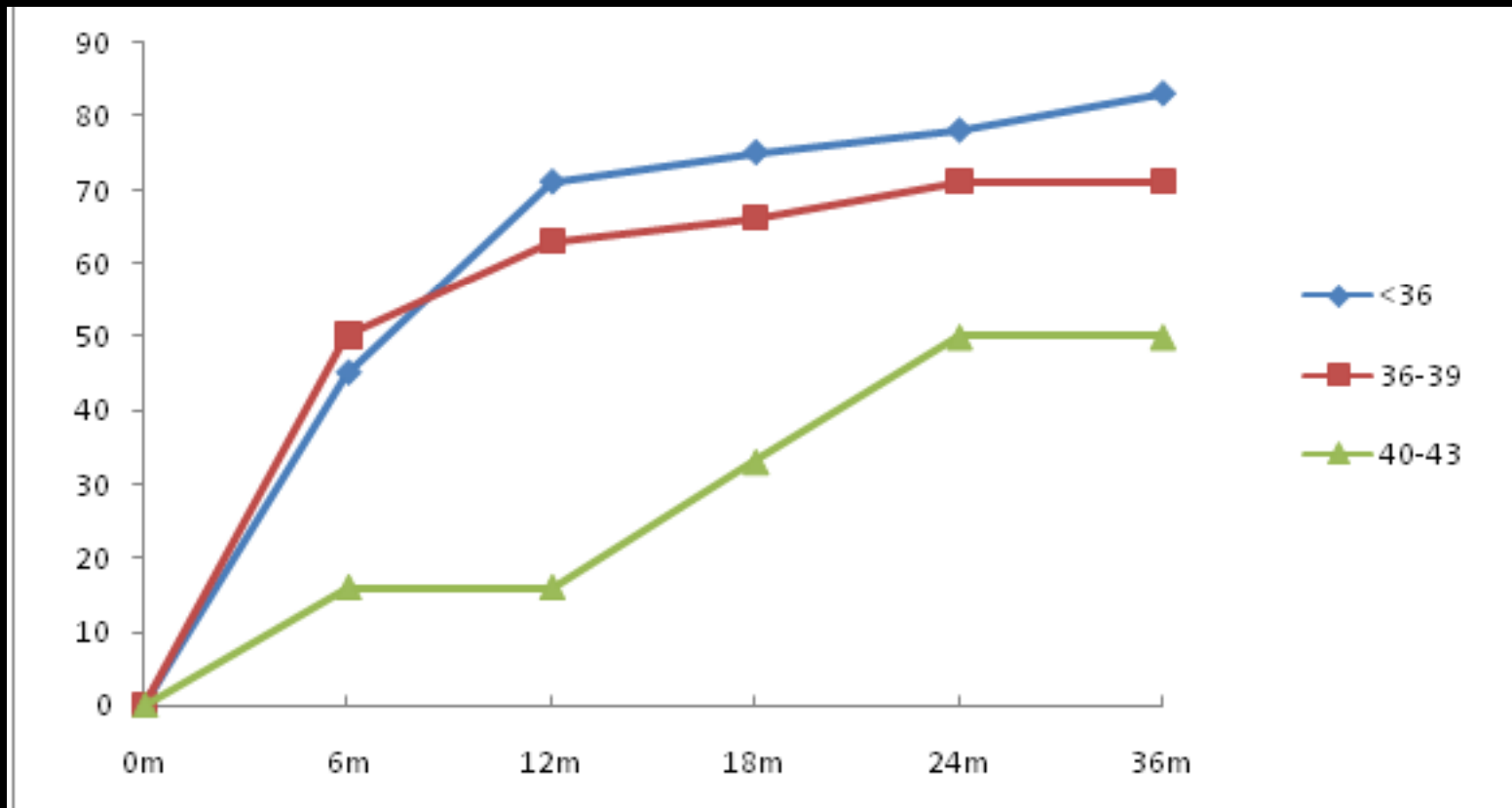
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Factors influencing results

1. age

Cumulative pregnancy rate and age



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Factors influencing results

2. Technique of sterilization

	ring	clips	coagulation	
nb	94	39	24	
age	33,8	33,9	33,7	NS
bilateral	92	38	23	NS
unilateral	2	1	1	
I-I	54	27	6	p<0,05
I-A	6	0	3	NS
<5cm	13	2	9	p<0,05
IUP%	73	79	68	NS

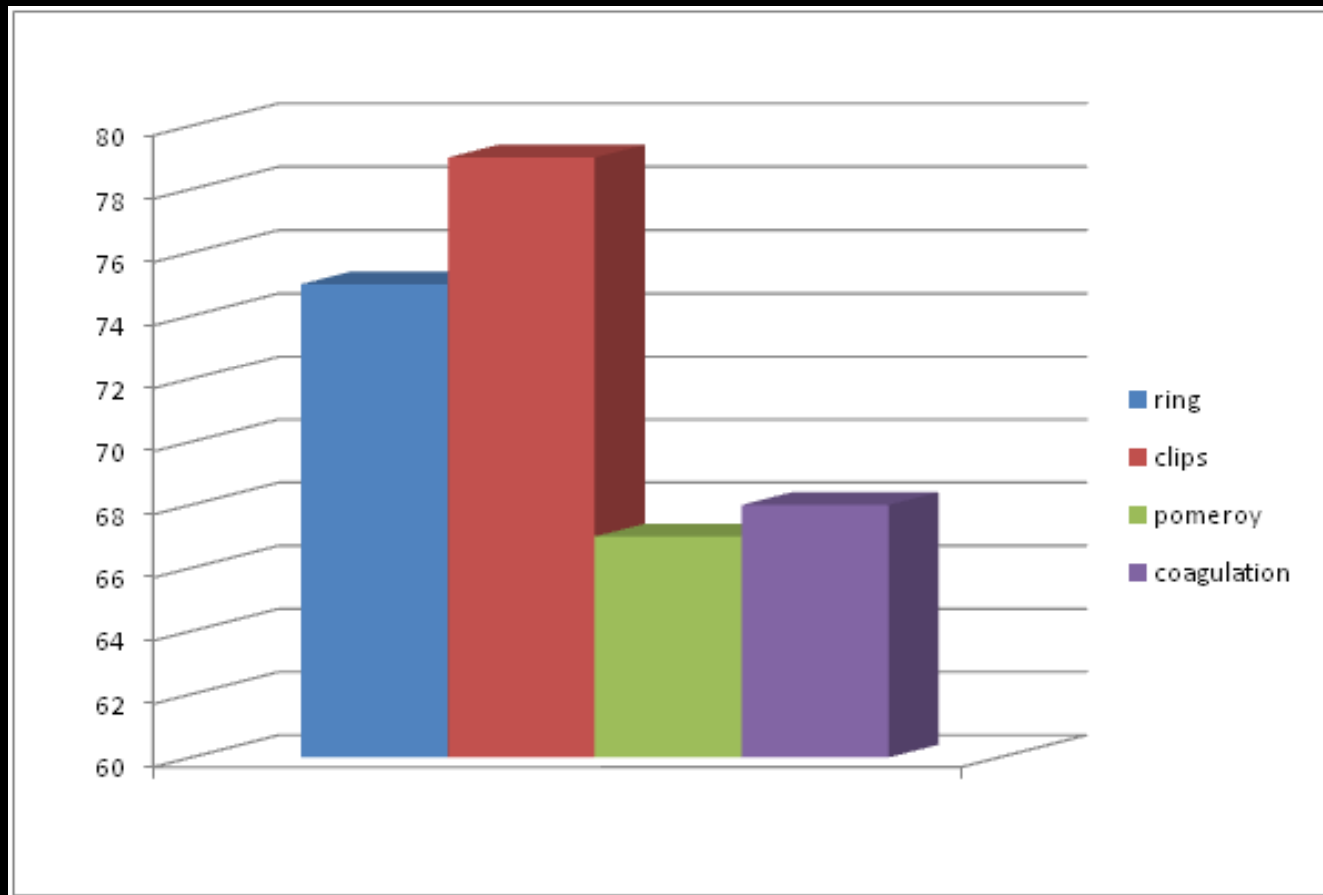


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Factors influencing results

2. Type of sterilization



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Factors influencing results

3. Tubal length

	> 5 cm	< 4 cm
IUP	73%	50%
EUP	7%	20%



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Literature

◎ Rock, 1987

- Coagulation: 67%
- Falope ring: 86%
- ↓ PR for tubes > 4 cm

◎ Gomel, 1980

- Shorter tubal length – longer time to pregnancy



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Factors influencing results

4. Infection

- Lower pregnancy rate (30%)
- Higher risk of ectopic pregnancy
- Pregnancy rate is related to
 - Adhesions (extend , dense)
 - Thickness tubal wall
 - Mucosal appearance



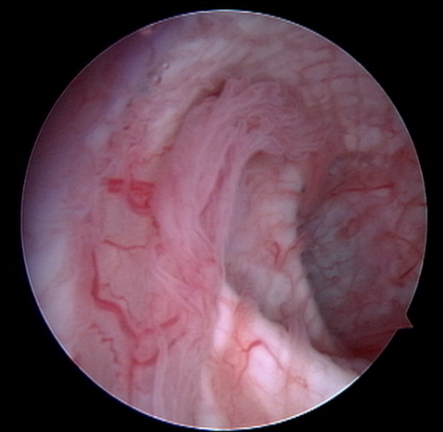
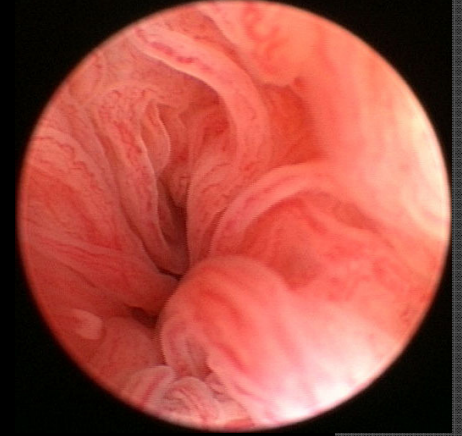
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Salpingoscopy

Classification

Grade	Description
I	Normal folds
II	Major folds are separated, flattened but otherwise normal
III	Focal adhesions between folds (<50 % of folds involved)
IV	Extensive adhesions between folds
V	Fibrosis and loss of fold pattern



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Salpingoscopy

Diagnostic value

Grade	Intrauterine pregnancy rate	Ectopic pregnancy rate
I	59%	5%
II		
III	20%	10%
IV	<5%	50%

Brosens, Reprod. med. Rev. 1996



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Fimbrioplasty technique

- Flowering: Laser, Bipolar coagulation
- Suturing

	optimal eversion	phimosis	occlusion
suturing	66.7	22.2	11.1
flowering	38	33.4	28.6

Korell et al. 1991



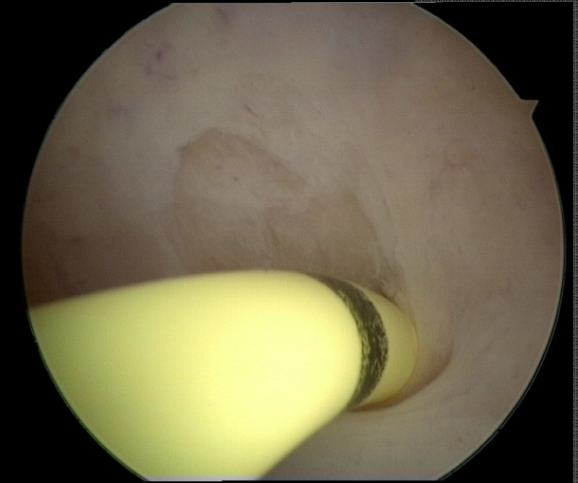
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Proximal tubal obstruction

Hysteroscopic tubal canulation

study	Pregnancy rate
Sakumoto	43%
Ransom	47%
Das	57%



Tubocornual anastomosis <> Tubouterine implantation

Tubocornual	Pregnancy rate
Gomel	63%
Frantzen	43%
Dubuisson	74%

Tubouterine	Pregnancy rate
Rock	25%
Singhal	22%



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IVF

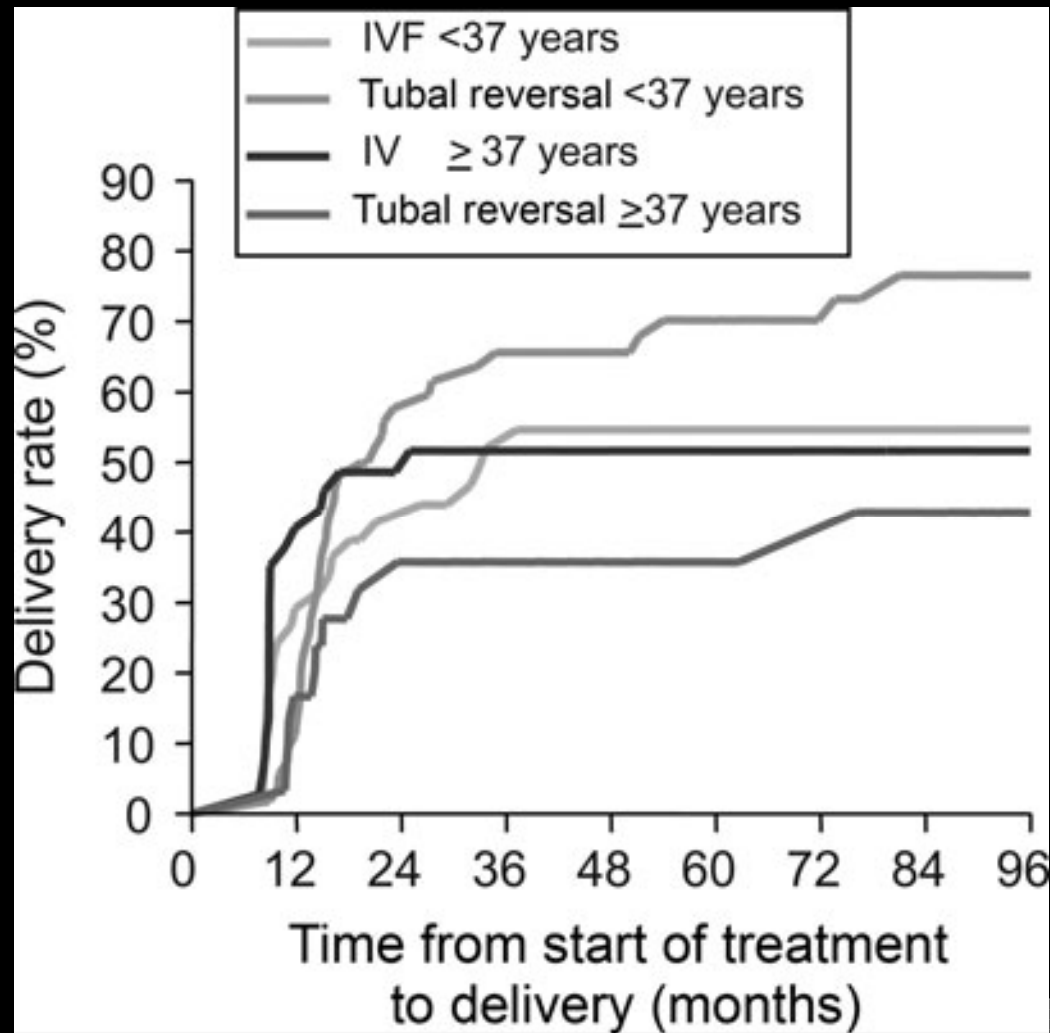
- ◎ IVF cyli ↑ every year
 - 781 in 1998
 - 916 in 2002
 - 1022 in 2003
- ◎ ESHRE 2003: from 725 centra
 - Pregnancy rate 29.6%
 - Delivery rate 25.2%
 - Multiple pregnancies
 - 26.9% in 2000
 - 24.5% in 2003
- ◎ Risk of hyperstimulation



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Pregnancy rate according to age

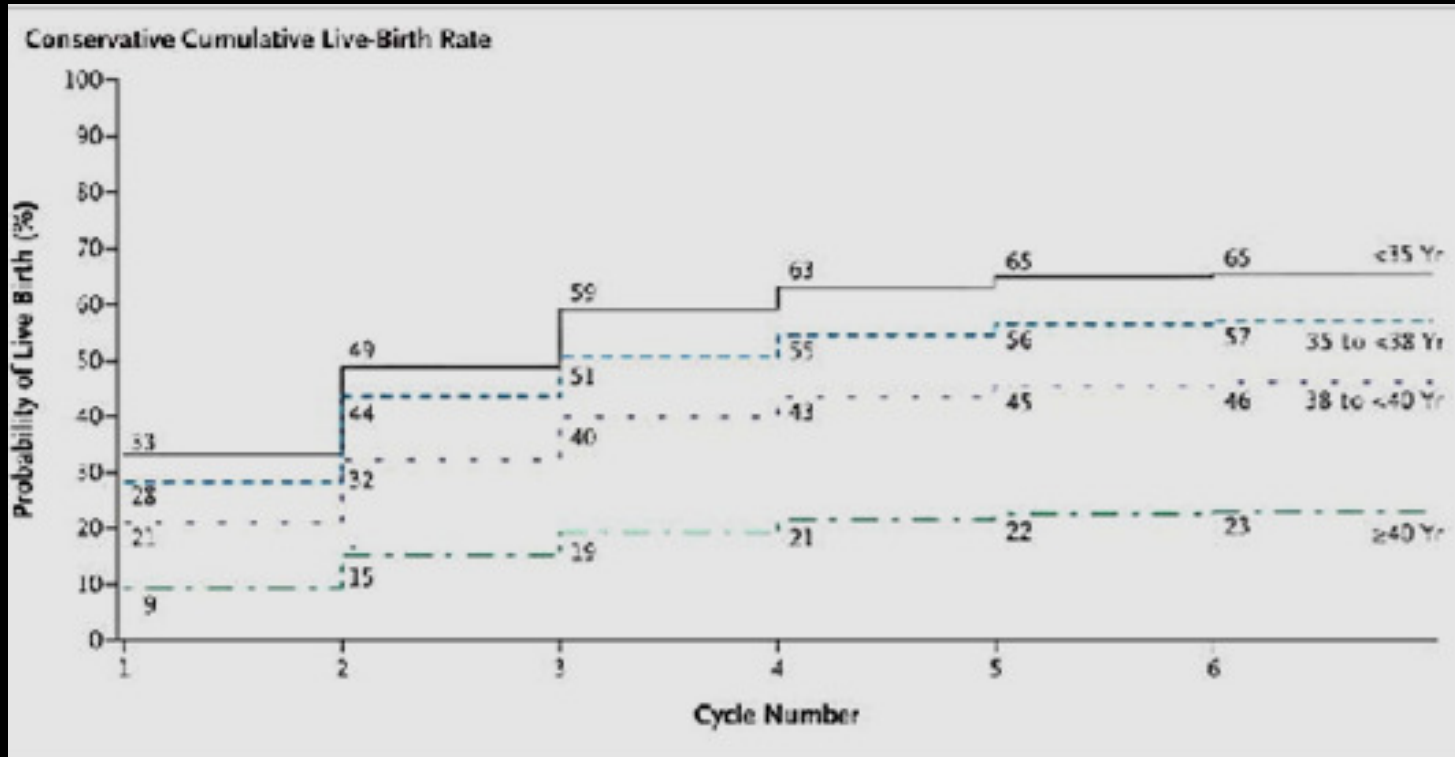


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Boeckxstaens A, Hum Reprod.

Pregnancy rate according to age



Malizia, NEJM 2009



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Pregnancy rate according to age

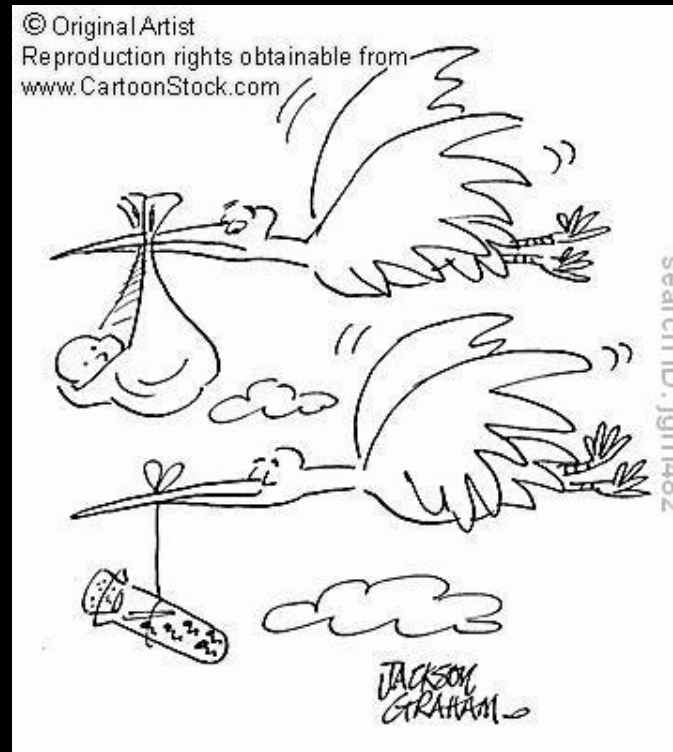
Cumulative Pregnancy rate	Ivf (6 cycles)	anastomosis
<36	65%	81%
36-40	51%	67%
>40	23%	50%



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IVF or sterilization reversal?



- © What will influence the decision?



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IVF or sterilization reversal?

- What will influence the decision?
 - Medical?
 - Age
 - Type of sterilization
 - Tubal length
 - Infection - damage
 - Sperm
 - Personal? Personal values, ethical
 - Cost?
 - Cost for IVF
 - Cost of twin
 - Centre?
 - Liberal referral to IVF
 - Experience - Training



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IVF or sterilization reversal?

- The choice of treatment is ideally dependent on various considerations, both technical and non-technical
- The accurate information regarding both IVF and tubal surgery is essential in the decision-making process of the couple.

(Gomel and Taylor, 1992).



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IVF or sterilization reversal?

Microsurgery	IVF
younger patients up to 36	Andrologic factors
Older patients (>40 y) reversal sterilization	Extended tubal damage
	Repeated extra-uterine pregnancy



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Conclusion

IVF and tubal surgery must be considered complementary

Tubal anastomosis gives the possibility of a spontaneous conception without the IVF related risks

Reproductive centres must have the expertise on all methods to be able to counsel every patient correctly.



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Leuven Institute for Fertility and Embryology



Stephan Gordts
Rudi Campo
Patrick Puttemans
Sylvie Gordts
Marion Valkenburg
Caroline Van Turnhout

www.lifeleuven.be

lifeleuven@lifeleuven.be