

How many embryos to transfer in poor responders?

*Christina Bergh
Göteborg
Sweden*



Revision 2003-01-01 of the legislation (the law concerning in vitro fertilization 1998:711)

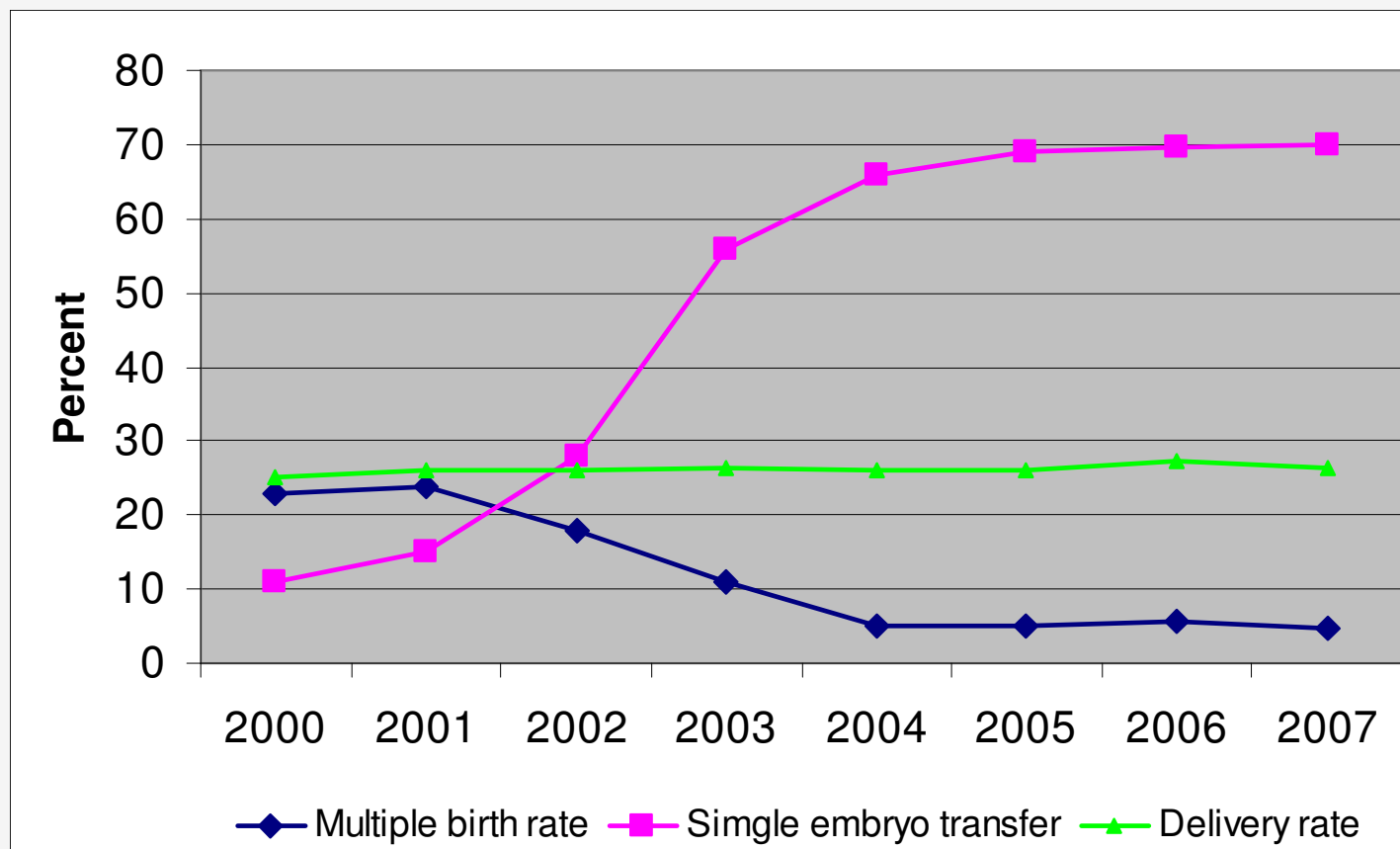
Guidelines

1§ After IVF should normally only one embryo be transferred.

Advices

If the risk for twin pregnancy is regarded low two embryos can be transferred.

Delivery rate, multiple birth rate and single embryo transfer rate in Sweden 2000-2007



Karlström and Bergh, 2008

Bahceci et al, 2003

Istanbul, 1997-2000, 3707 cycles

≤4 oocytes, 300-450 FSH

290 OPU, 208 ET

ET: 1.62

Pregnancy rate/ET: 8.1%

Delivery/OPU: 4.8%

Delivery/ET: 6.7%

Bahceci et al, 2003

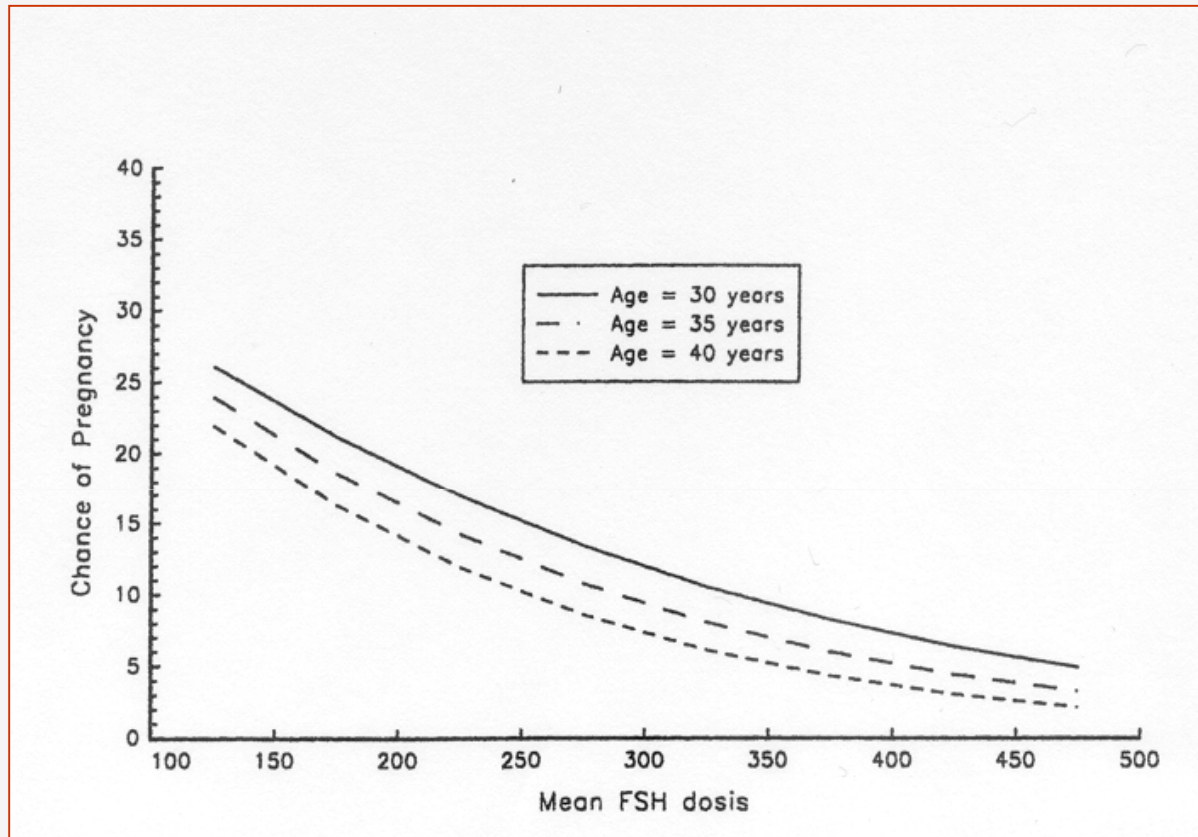
	One embryo n=109	Two embryos n=69	Three embryos n=30	Controls n=126
Age	37.9	37.3	36.6	36.9
Grade I-II embryos	81.3	78.7	77	71.9
Implantation %	3.6	5.07	6.6	15.3
Pregnancy, %	3.6	10.1	16.6	37.3

Saldeen et al, 2007

2003-04, 1706 OPU, 290 poor responders

Def: <5 follicles, high FSH doses (300-450 IU daily)

	>37 years (n=133)	controls	<37 years (n=157)	controls
Pregnancy/OPU	3.0	22.1	14.0	34.0
Pregnancy/ET	5.3	25.5	23.4	38.5
Delivery/OPU	2.2	17.0	11-4	31.3
Delivery/ET	4.0	19.6	19.1	35.0
Mean no embryos transferred	1.3		1.1	



Probability of pregnancy in the poor responding group and in relation to mean FSH dose and age.



Patients

2003-2008

Sahlgrenska University Hospital

5351 oocytes retrievals (3215 couples)

4551 embryo transfers

Poor responders:

≤ 4 oocytes and

> 225 IU as starting dose/and or total dose

> 2500 IU

Poor responders:367

Normal responders:4984

	Poor responders	Normal responders	P-value
Pregnancy per OPU, %	15.5 (57/367)	31.8 (1586/4984)	<0.001
Pregnancy per ET, %	23.3 (57/245)	36.8 (1586/4306)	<0.001
Live birth per OPU, %	10.9 (40/367)	23.9 (1191/4984)	<0.001
Live birth per ET, %	16.3 (40/245)	27.7 (1191/4306)	<0.001
Multiple birth rate, %	5.0 (2/40)	6.7 (80/1191)	ns

SET:245 cycles

DET:76 cycles

	Poor responders	Normal responders	P-value
SET (%)	169/245 (69.0)	3148/4306 (73.1)	
Pregnancy/SET	30/169 (17.8)	1153/3148 (36.6)	<0.001
Pregnancy/DET	27/76 (35.5)	433/1158 (37.4)	0.81
Live Birth/SET	19/169 (11.2)	885/3148 (28.1)	<0.001
Live Birth/DET	21/76 (27.6)	306/1158 (26.4)	0.79
MBR/SET	0	9/885 (1.0)	
MBR/DET	2/21 (9.5)	80/306 (26.1)	0.12

Elective SET

27 cycles-

low pregnancy/live birth rates

	≤4 oocytes and high FSH dose	≤4 oocytes and normal FSH dose	P-value	>4 oocytes
Age (mean)	35.5	32.0	<0.0001	32.9
No of oocytes (mean)	3.0	3.1	0.08	12.5
No of GQE (mean)	1.0	1.1	0.29	3.5

	≤4 oocytes and high FSH dose	≤4 oocytes and normal FSH dose	P-value	>4 oocytes
Pregnancy/OP U, (%)	57/367 (15.5)	58/217 (26.7)	0.001	(32.1)
Pregnancy/ET (%)	57/245 (23.3)	58/156 (37.2)	0.003	(36.8)
Live birth/OPU (%)	40/367 (10.9)	38/217 (17.5)	0.03	(24.2)
Live birth/ET (%)	40/245 (16.3)	38/156 (24.4)	0.05	(27.8)
MBR (%)	2/40 (5.0)	0	-	(6.9)

Poor responders (367 OPU)

	Live birth	No live birth	p-value
Age	36.0	35.4	0.16
No oocytes	3.4	2.9	0.000
Start dose FSH	350	358	0.69
Total FSH dose	4266	4812	0.023
No GQE	1.70	0.94	0.000
No to ET	1.55	0.80	0.000

Poor responders (367 OPU)

Independent predictors of live birth

	OR	95%CI
Total FSH dose	1.0	0.999-1.000
No to ET	5.34	2.94-9.70

Poor responders (245 ET)

	Live birth	No live birth	P-value
Age	36.0	35.4	0.20
No oocytes	3.4	3.0	0.007
Start dose FSH	350	357	0.75
Total FSH dose	4266	4668	0.103
No GQE	1.70	1.47	0.05
No to ET	1.55	1.28	0.003

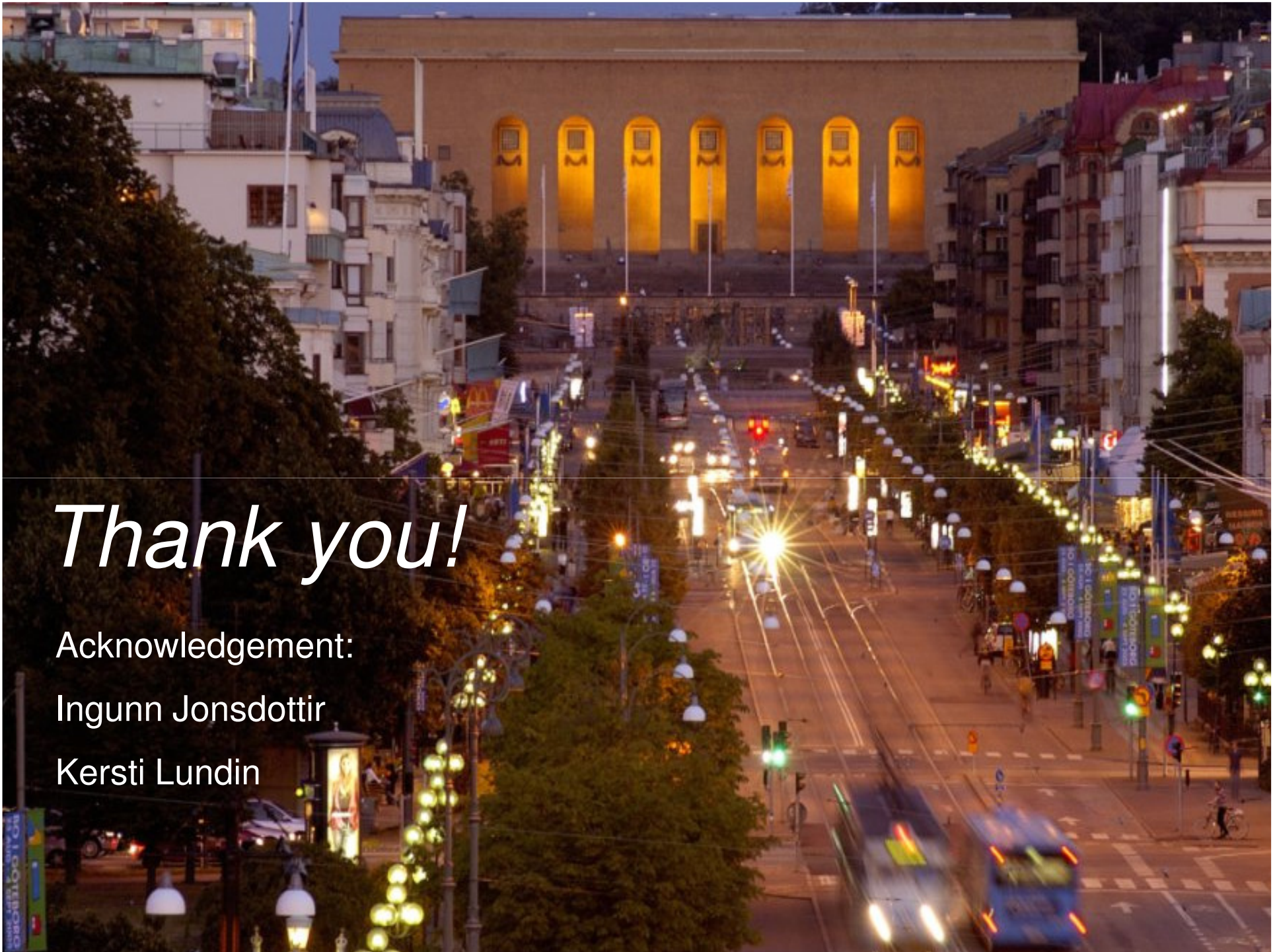
Poor responders (245 ET)

Independent predictors of live birth

	OR	95%CI
Total FSH dose	1.0	0.999-1.000
No to ET	3.61	1.75-7.4

Conclusions

- Poor responders have lower pregnancy and live birth rates
- Live birth rate after DET clinically/significantly higher than after SET
- Live birth rate after DET comparable to normal responders
- Multiple live birth rate after DET acceptable



Thank you!

Acknowledgement:

Ingunn Jonsdottir

Kersti Lundin