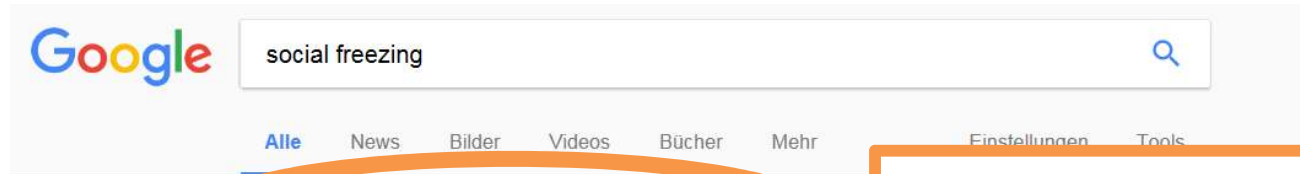


Social Freezing – the modern family planning

Katharina Hancke
Universitätsfrauenklinik Ulm



Social Freezing?



Ungefähr 57.900.000 Ergebnisse (0,65 Sekunden)

57 million hits

Das Social Freezing Verfahren - In der Eizellbank
[Anzeige](#) www.eizellbank-erlangen.de/kinderwunsch/social-freezing 09131 9201020
Hilfe bei unerfülltem Kinderwunsch. Jetzt anrufen & Termin vereinbaren!
Social Freezing: Kosten Social Freezing Verfahren
Social Freezing: Risiken Social Freezing: Kontakt

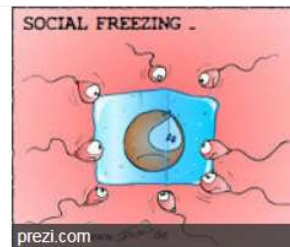
Biologische Familienplanung - Social Freezing Stuttgart
[Anzeige](#) www.socialfreezing-stuttgart.de/
Die biologische Familienplanung heute gestalten

Wissenschaftliche Artikel zu **social freezing**

Social egg freezing: for better, not for worse - [Mertes](#) - Zitiert von: 63
Ethical aspects of **social freezing** - [Pennings](#) - Zitiert von: 13
The **freezing** and unfreezing of lay-inferences: Effects ... - [Kruglanski](#) - Zitiert von: 1093

Social Freezing bezeichnet das vorsorgliche Einfrieren von unbefruchteten Eizellen ohne medizinischen Grund. Diese Möglichkeit gibt Frauen, die sich ihren Kinderwunsch aktuell nicht erfüllen können, größere Chancen auf eine Schwangerschaft jenseits des Alters von etwa 35 Jahren.

Social Freezing – Wikipedia
https://de.wikipedia.org/wiki/Social_Freezing



Social Freezing?

Let's stop rushing to find husbands
and start rushing to freeze our eggs.



someecards



Universitätsklinikum Ulm
Frauenklinik

Social Freezing



Social Freezing

- 38y old woman
- no partner
- asks for a recommendation – should she perform „egg-freezing“?



Social Freezing

- What is social freezing? How does it work?
- How are the chances for success: the „Baby take home rate“?
- Why should you recommend it or not?



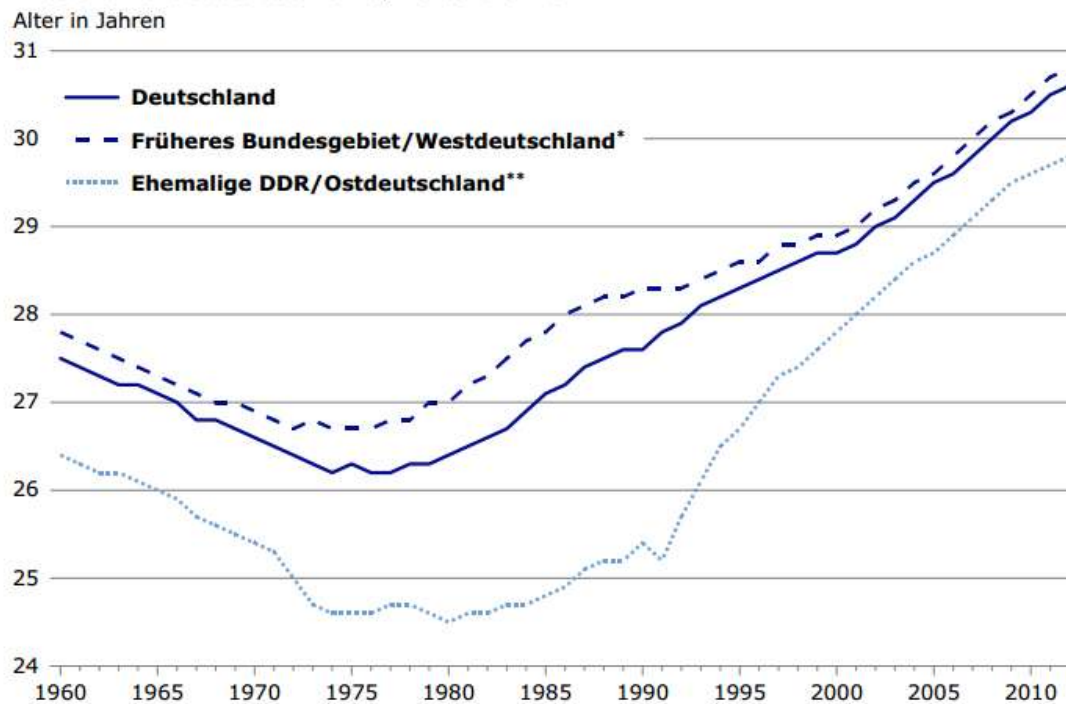
Social Freezing

- Idea:
- Preserve Fertility and move family planning into another decade
 - No suitable partner
 - Career reasons?
- Medical reason:
 - The quality of eggs decline with age
 - The risk of miscarriage and malformation rises



What about age?

Average age of a German woman giving birth to her first child



30,8 years

BW: 31,3 years

Japan

2015: 30,7 years

* Die Berechnungen für 2011 und 2012 beruhen noch auf der alten Bevölkerungszahl aus der Fortschreibung früherer Volkszählungen.

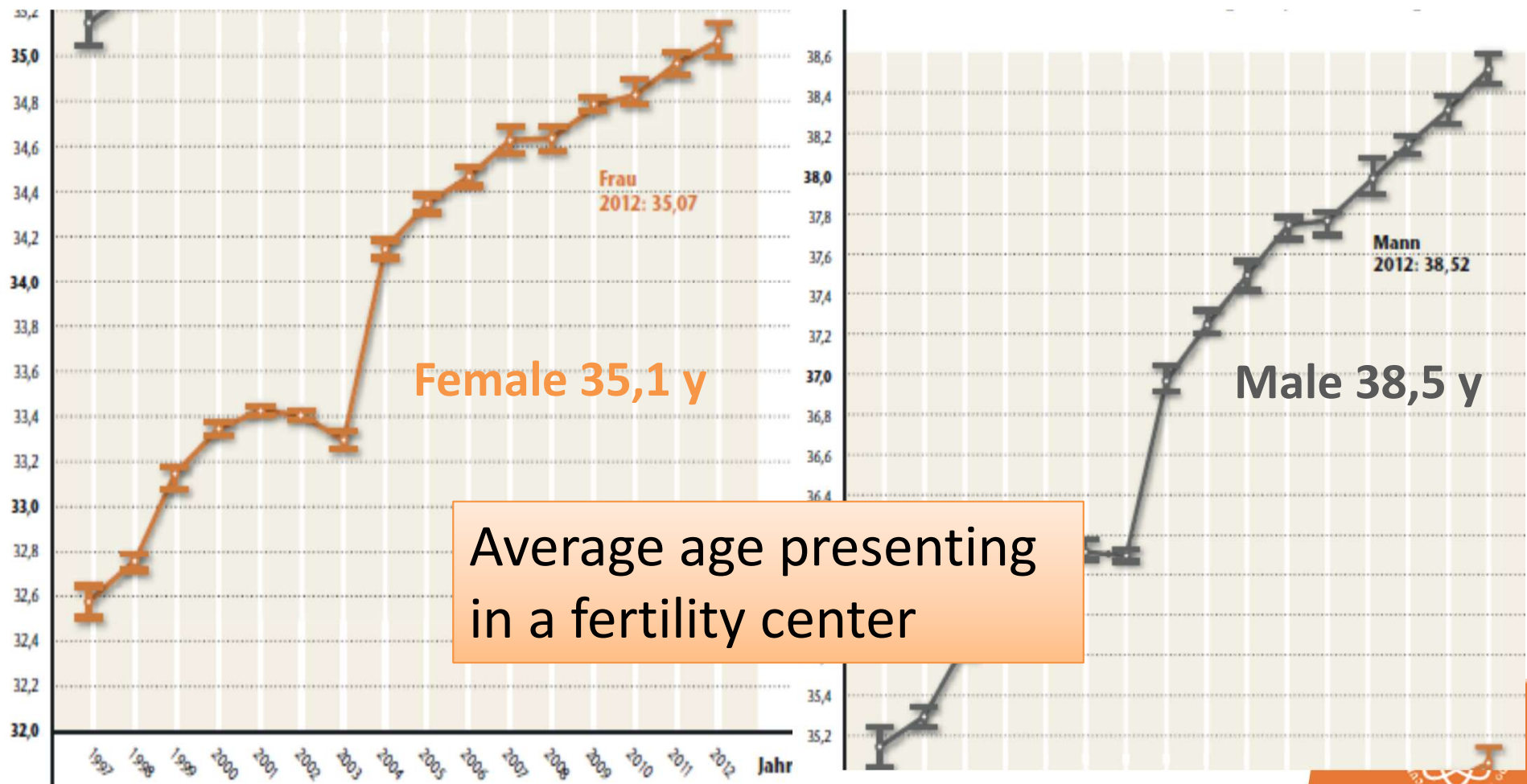
** ab 1990 ohne Berlin

*** ab 1990 einschließlich Berlin



Universitätsklinikum Ulm
Frauenklinik

What about age?



Pregnancy rates

Without „help“

- ♀25j. → 23%
- ♀35j. → 16%

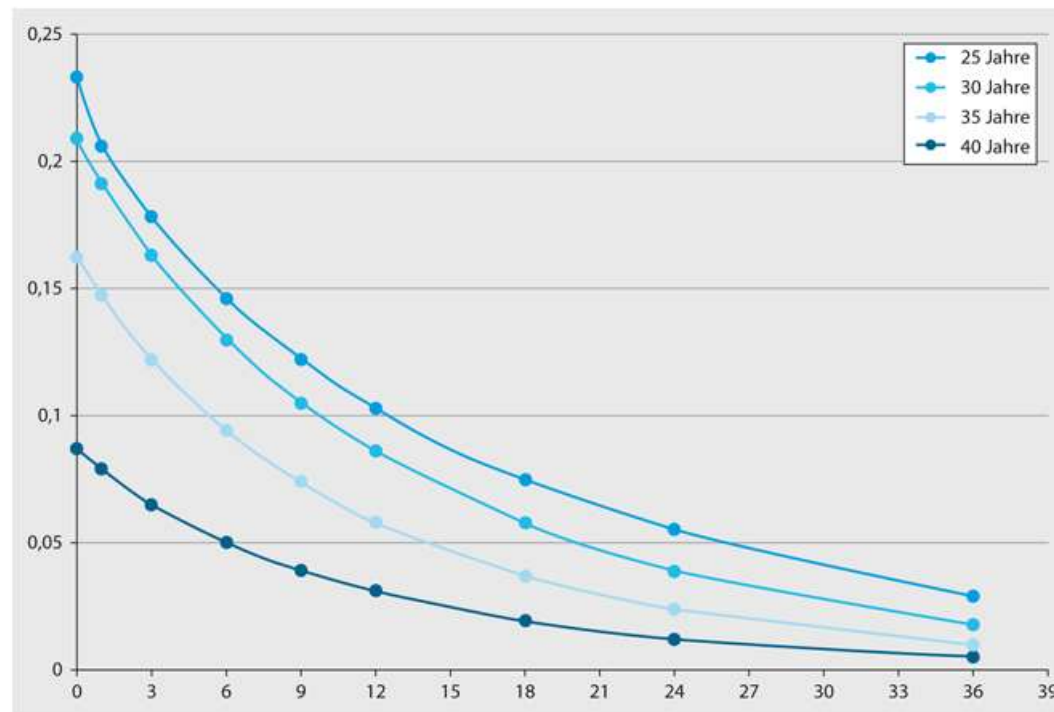
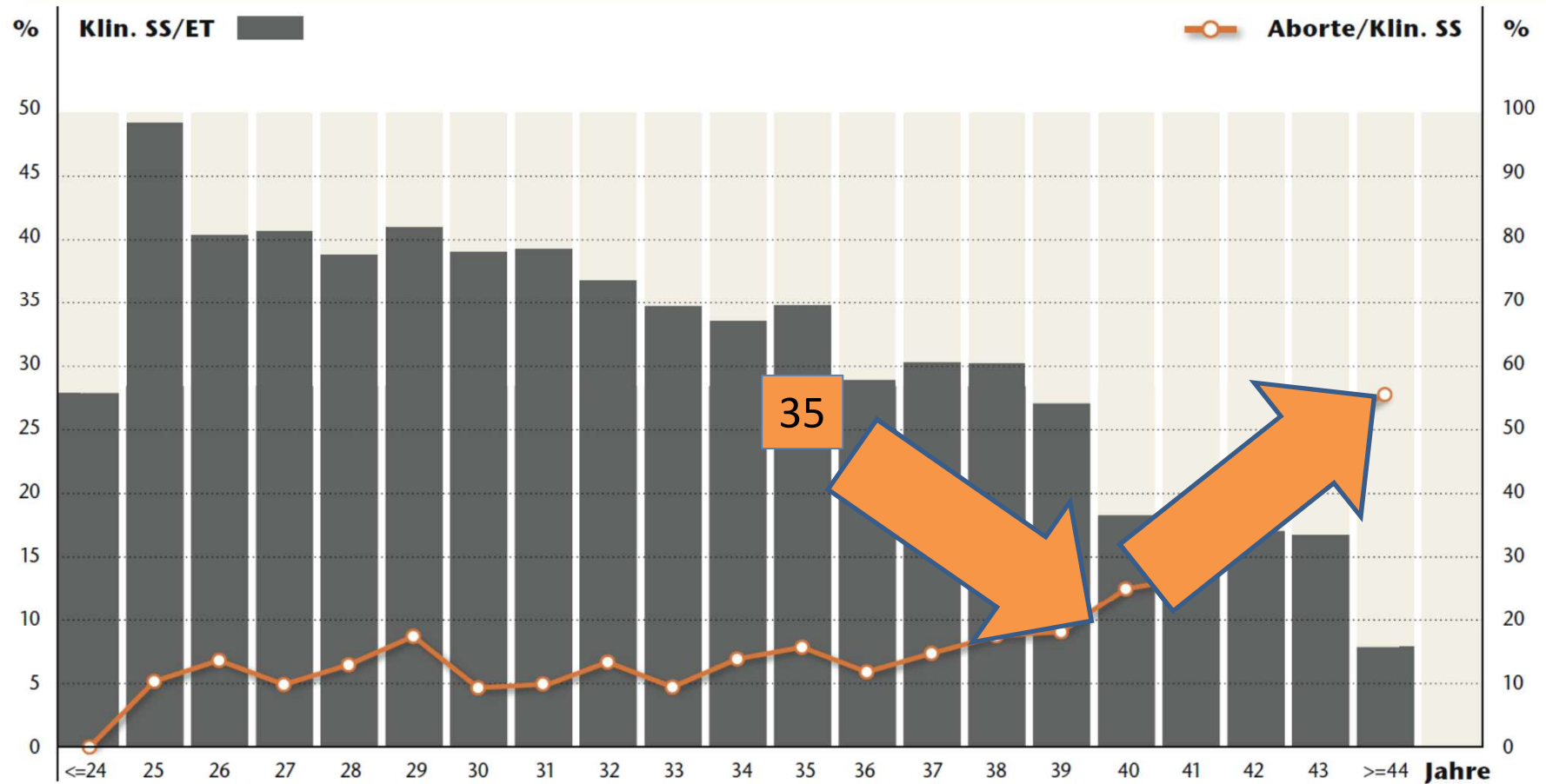


Abb. 3

Spontankonzeptionswahrscheinlichkeit im nächsten Zyklus (*Ordinate*) in Abhängigkeit von der Zahl bisher erfolgloser Zyklen (*Abszisse*) und dem Alter der Frau. (Mod. nach [7])

Pregnancy rates



	<=24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	>=44	ET	Klin.SS/ET
n	36	59	109	150	219	322	384	461	508	519	602	604	644	628	586	672	678	300	270	203	229		
%	27,78	49,15	40,37	40,67	38,81	40,99	39,06	39,26	36,81	34,68	33,55	34,77	28,88	30,25	30,20	27,08	18,29	18,67	17,04	16,75	7,86		



What about age?

- Ovarian reserve declines with age
- Quality of the oocytes decline with age
- Aneuploidie-Rate rises with age

Alter	Trisomie 21	Alle
≤ 32	≤ 1,5	≤ 3
33 – 37	1.4 – 6.4	3.5 – 8.1
38 – 42	5.2 – 23.1	9.5 – 25.5
43 – 45	17.6 – 52.3	32.6 – 53.7
> 45	>46.6	>53.7

All about age!

>40% at about 40y

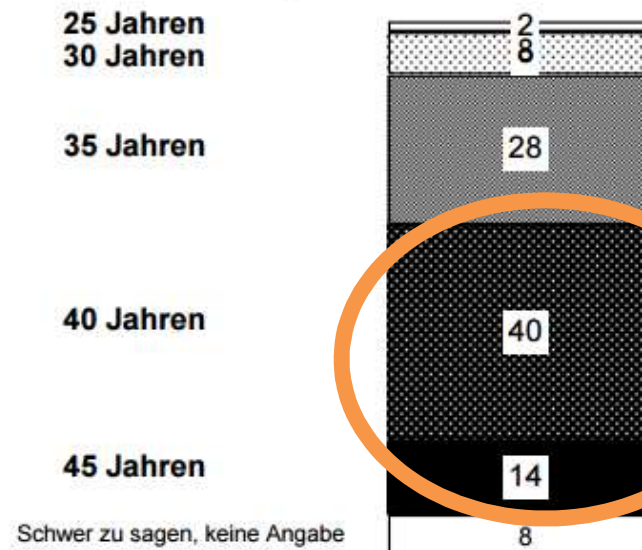
14% > 45y

54% are wrong!!!

At which age – do you think – it get's harder to become pregnant

von der Fruchtbarkeit her schwieriger, schwanger zu werden? Würden Sie sagen,"

Ab einem Alter von etwa...

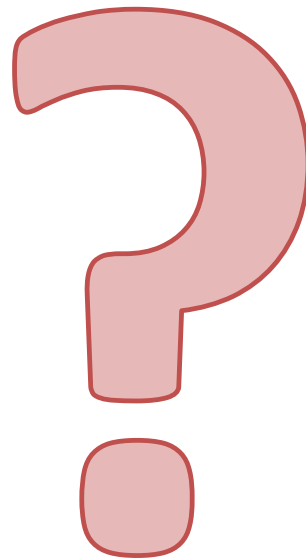


Bevölkerung ab 16 Jahre

in Prozent

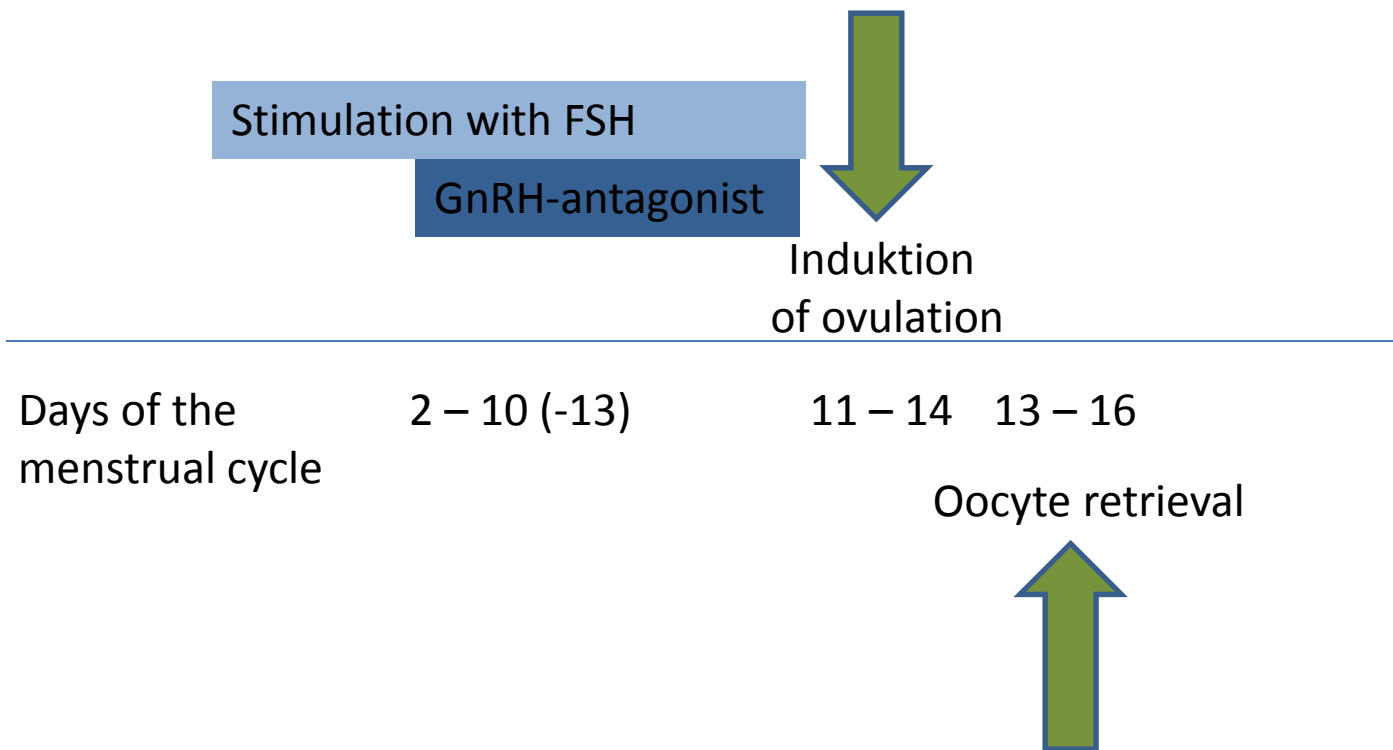
QUELLE: Allensbacher Archiv, IfD-Umfrage 10005, Mai / Juni 2007

Social Freezing



Social Freezing

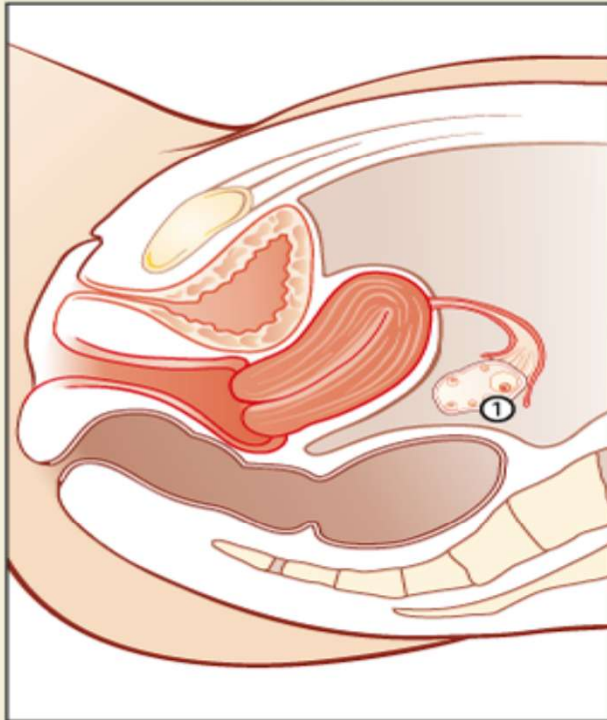
Like a „normal“ artificial reproduction (ART/IVF)



Stimulation

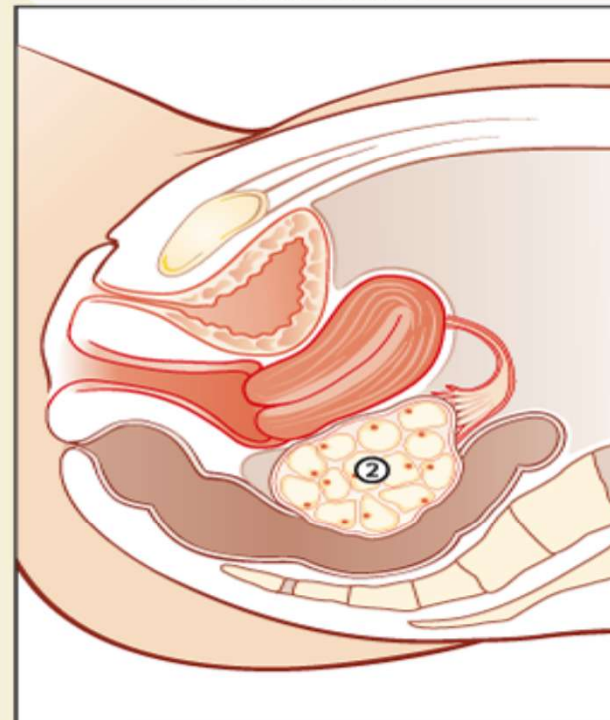
Stimulierter Eierstock

normaler Eierstock



① Eierstock im natürlichen Zyklus

vergrößerter Eierstock

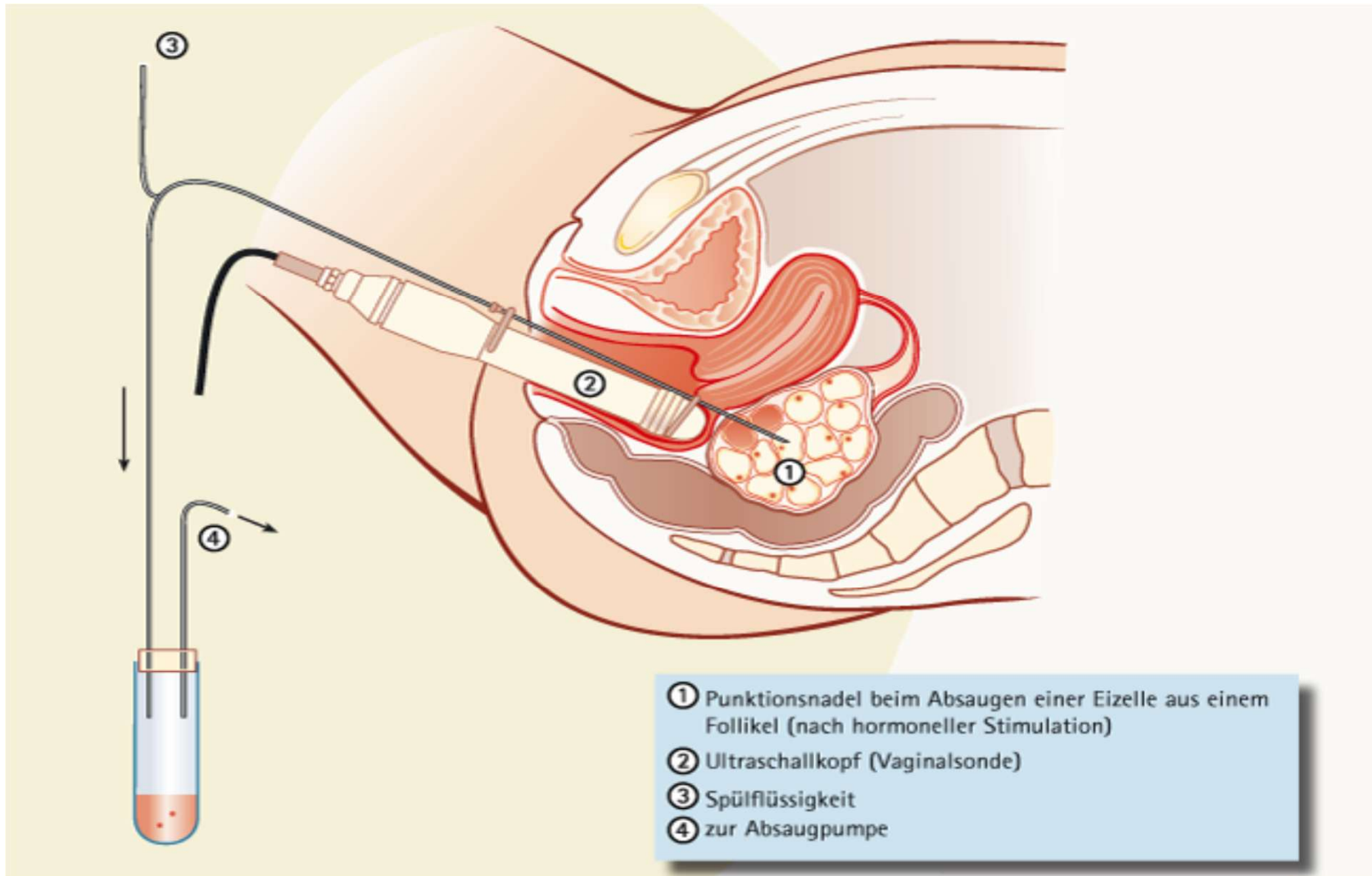


② Eierstock bei Hormonbehandlung für IVF / ICSI

(stilisierte Darstellung)

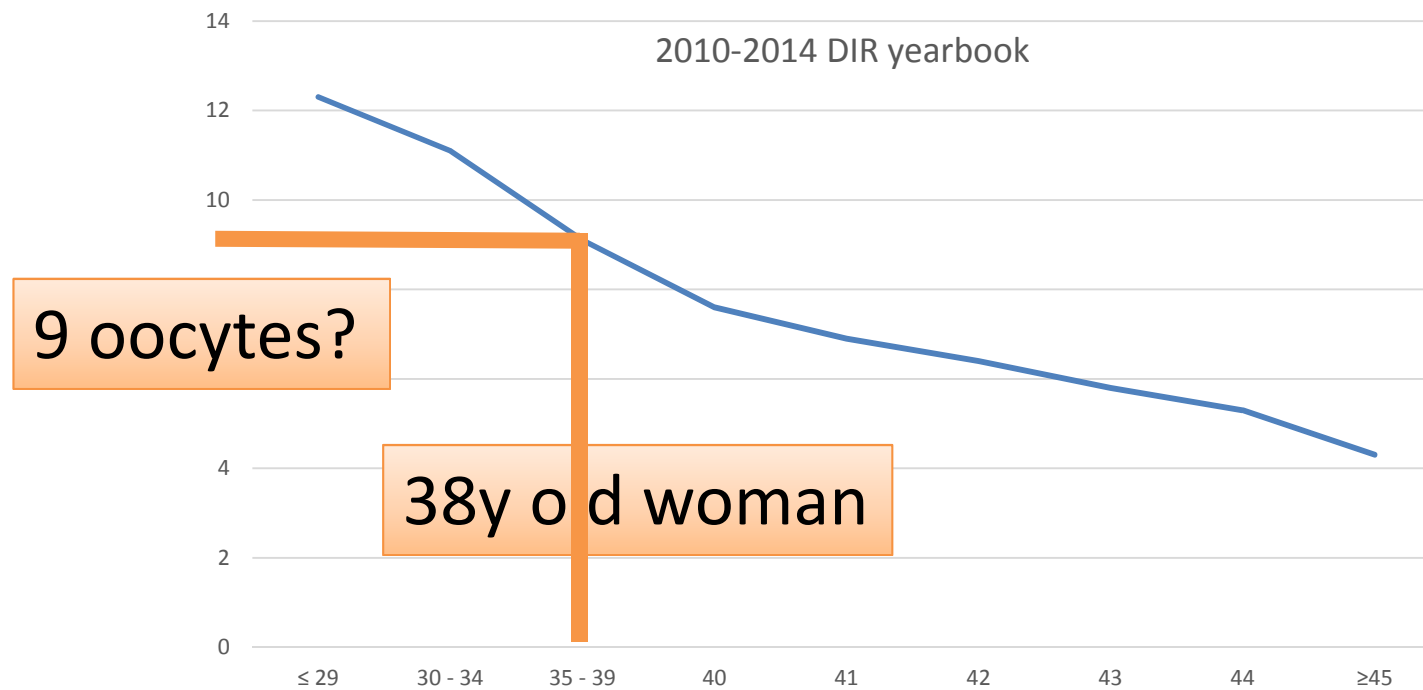
© FERRING, 2007

Oocyte retrieval

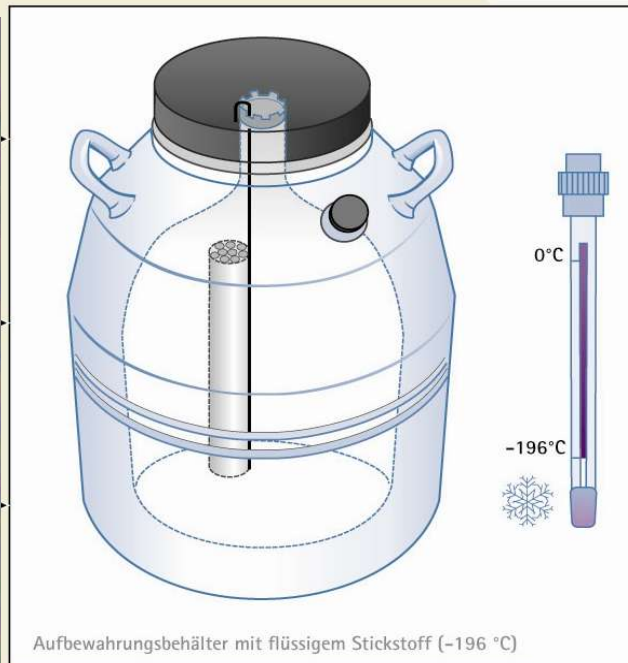


Oocyte retrieval

- Number of oocytes depending on age



Cryopreservation



Aufbewahrungsbehälter mit flüssigem Stickstoff (-196 °C)

Vorteile

Eizellen:

- zusätzliche Schwangerschaftschance ohne aufwändige Hormonstimulation und Follikelpunktion

Spermien:

- Spermienverfügbarkeit bei z.B. beruflicher Abwesenheit des Mannes oder Krankheit (z.B. Hodentumor)

Hodengewebe:

- Verfügbarkeit von Spermien aus Hodengewebe zum Zeitpunkt der Follikelpunktion



Social Freezing

- Preserve until
- Desire for a child/children
 - Thawing the oocytes
 - Fertilizing with sperms by the partner
 - Transfer of the embryo
- But what about the “BABY TAKE HOME RATE”



Social Freezing

Results by the donor egg publications:

2015 FertilSteril Cobo et al.:

3467 Zyklen (37.000 EZ)

- Oocyte survival rate: 90.4%
- Pregnancy rate: 48.4%, „ongoing“ PR 39.9%
- „Oocyte-to-baby“ – rate: 6.8%



Social Freezing

TABLE 4

Cumulative live birth according to the number of oocytes consumed.

No. of oocytes consumed	CLBR (%)	95% CI
5	6.1	5.3–7.0
10	39.4	37.5–41.3
12	52.5	51.4–55.5
15	67.5	65.4–69.8
20	80.5	78.3–82.7
25	85.4	83.2–87.6
30	89.9	87.6–92.1
35	94.8	92.3–97.2
40	95.5	93.0–97.9
43	97.3	94.9–99.7

Note: The increase in CLBR was of approximately 3.9% per additional oocyte from 5–10 oocytes; 5.6% from 10–15 oocytes; 2.6% from 15–20 oocytes; 1.0% from 20–25 oocytes; 0.9% from 25–35 oocytes; 0.2% from 35–40 oocytes, and 0.1% when >40 oocytes were consumed.

Cobo. Six years of egg banking for ovum donations. *Fertil Steril* 2015.

15

>30 (!)

Oocytes to have a realistic chance for a baby!

2015 Cobo et al.



Universitätsklinikum Ulm
Frauenklinik

Social Freezing

- What about the risk for malformations of the thawed oocytes?
 - Same rate of malformations with vitrified oocytes vs. conventional IVF vs. spontaneous conception(2.5%)
 - But there is no „long-term-follow-up“
- No data to
 - Long term data to the children
 - Long term data to the women

Social Freezing

- Questionnaire of 183 women after the procedure of social freezing *2013 Hodes-Wertz et al*
- 88% didn't have a partner
- 84% were older than 35years
 - 79% wished to use social freezing earlier in life
 - 83% believed public information is wrong
- 53% used as insurance for later

Social Freezing

-
- 38y old woman
 - no partner
 - asks for a recommendation – should she perform „egg-freezing“?

Age – about 9 eggs?

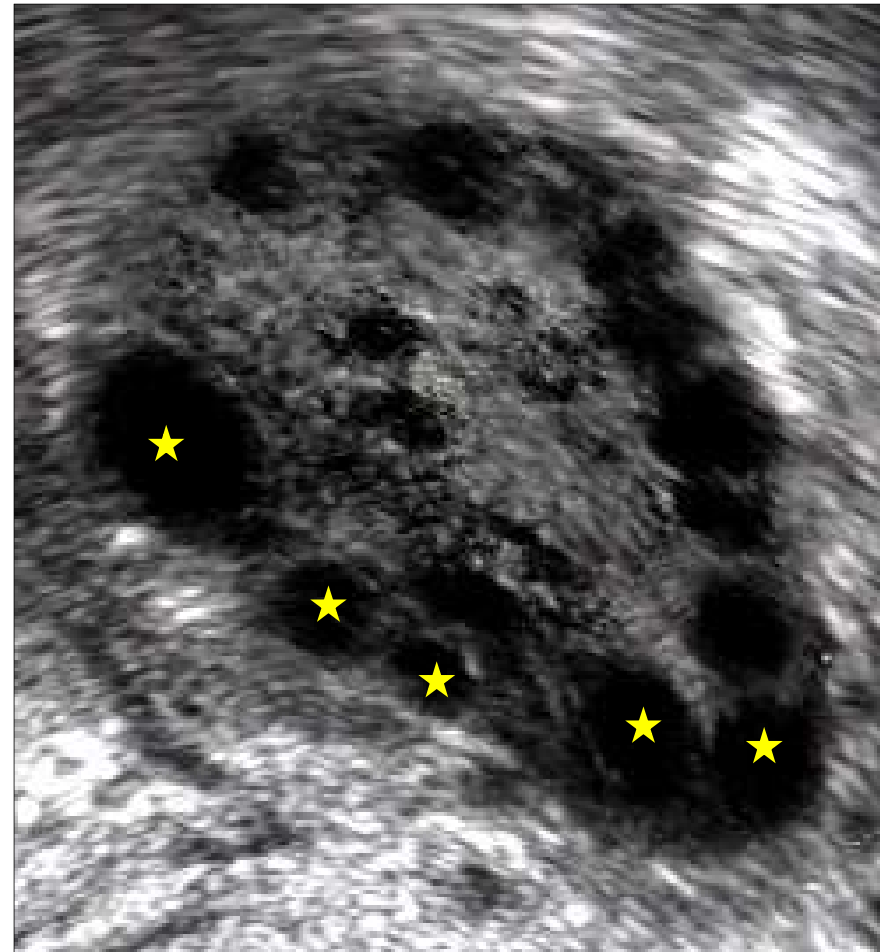
Ovarian reserve??



Ovarian Reserve

Sonography:

- Antral-Follicle-Count (AFC)
- $AFC > 12$ (6/Seite) means reasonable ovarian reserve
- Cave:
 - Dependent on person
 - Dependent on facility
 - Validity ↓

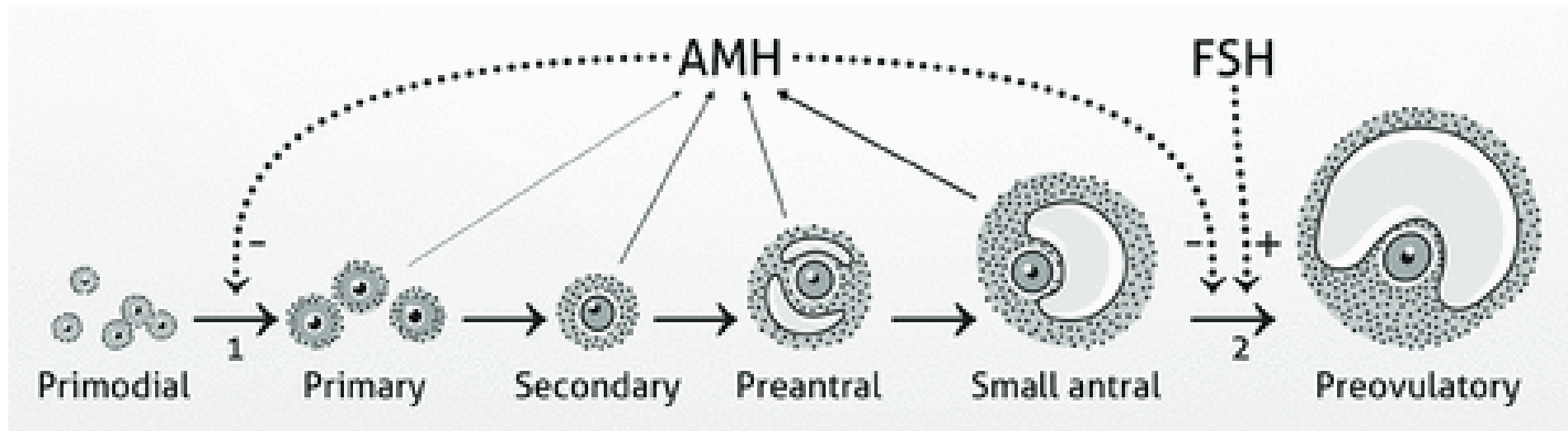


Ovarian Reserve

- Hormonal diagnostics
- FSH (Follikel-Stimulating-Hormone)
 - FSH rises while ovarian reserve declines
 - FSH <10 IU/l vs. 10-40 IU/l vs. >40 IU/l
- AMH (Anti-Muellerian-Hormone)

AMH

- Granulosacells of the antral follicels



AMH

- AMH >1.0 µg/l reasonable ovarian reserve

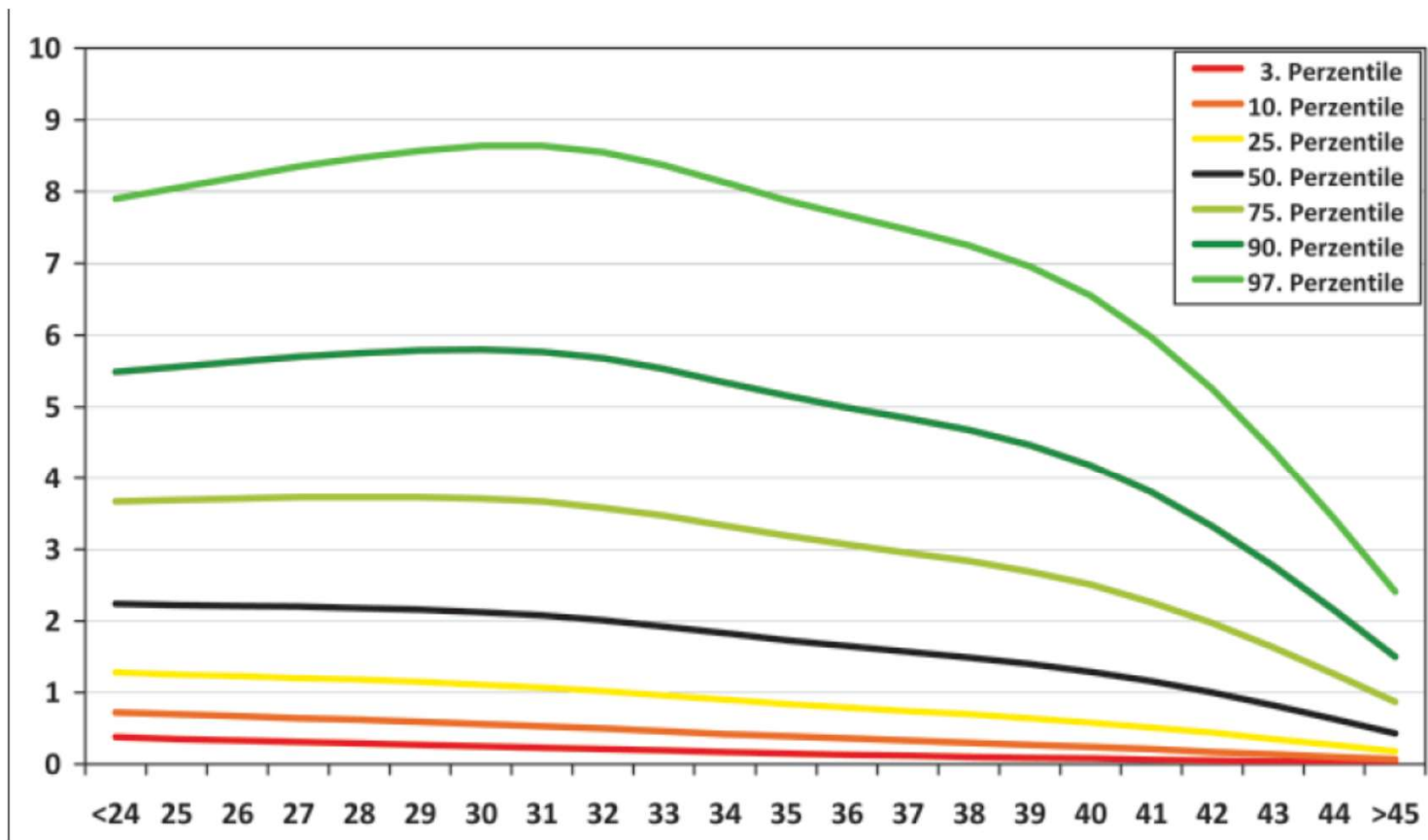


Abbildung 1: AMH-Perzentilennormogramm berechnet aus Daten einer internationalen Multicenter-Studie mit 3871 subfertilen Patientinnen vom 3.–5. Zyklustag. Mod. nach [24] mit Genehmigung von Elsevier. *Navroth et al 2014*

Social Freezing

- 38y old woman
- no partner
- asks for a recommendation – should she perform „egg-freezing“?

Age – about 9 eggs?

AMH ??

Realistic chance for a child –
more than one round?



Social Freezing – Take home message

- There is a realistic pregnancy rate
 - About 50% pregnancy rate
 - A lot higher compared to 40y women using IVF
- The risk for malformations are low with young oocytes
- Social freezing is best before 35years
- For more than one child, freeze more than 30 eggs
- No long term data for mother and child