



Благодаря, мамо.
Благодаря, тате.
Благодаря, Виена Ин Витро.

*Love meets life...
...it's a miracle!*



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Vienna In Vitro Center

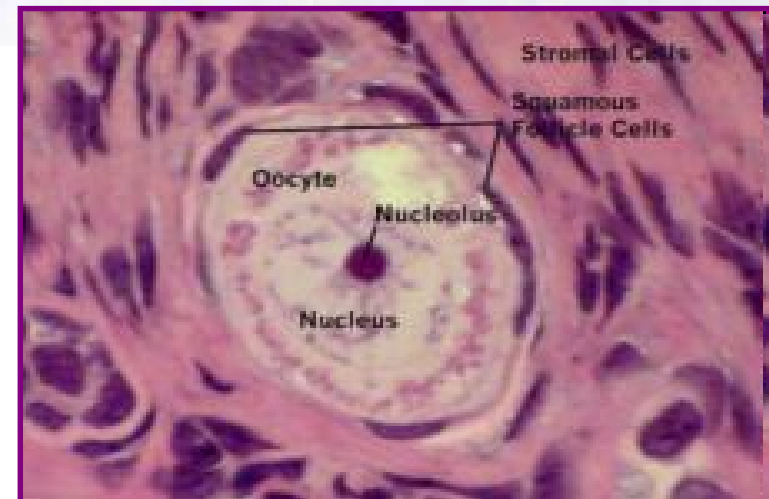
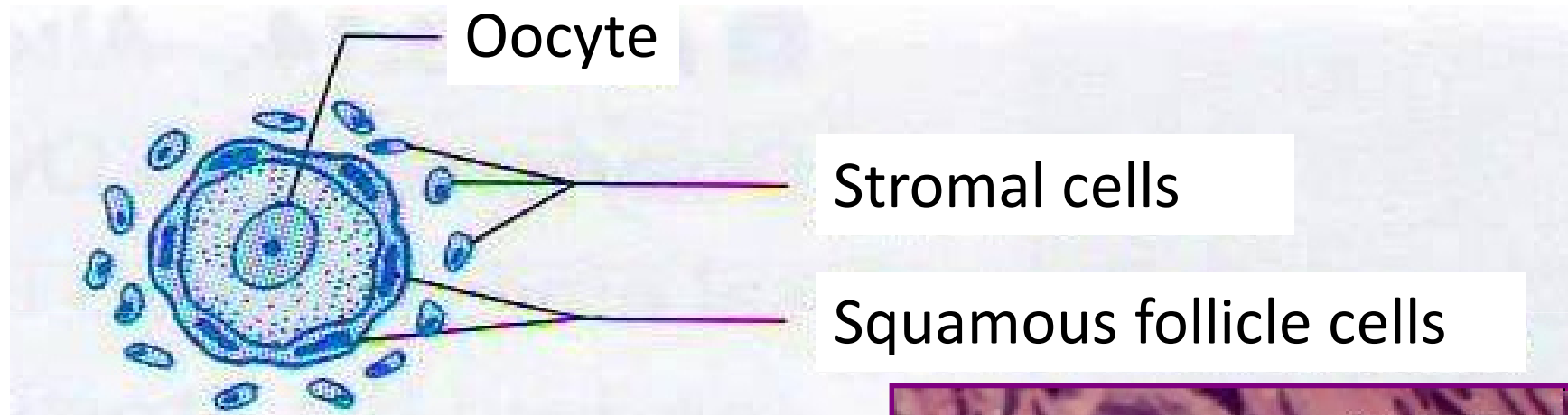
Ex ovo omnia



Primordial follicle



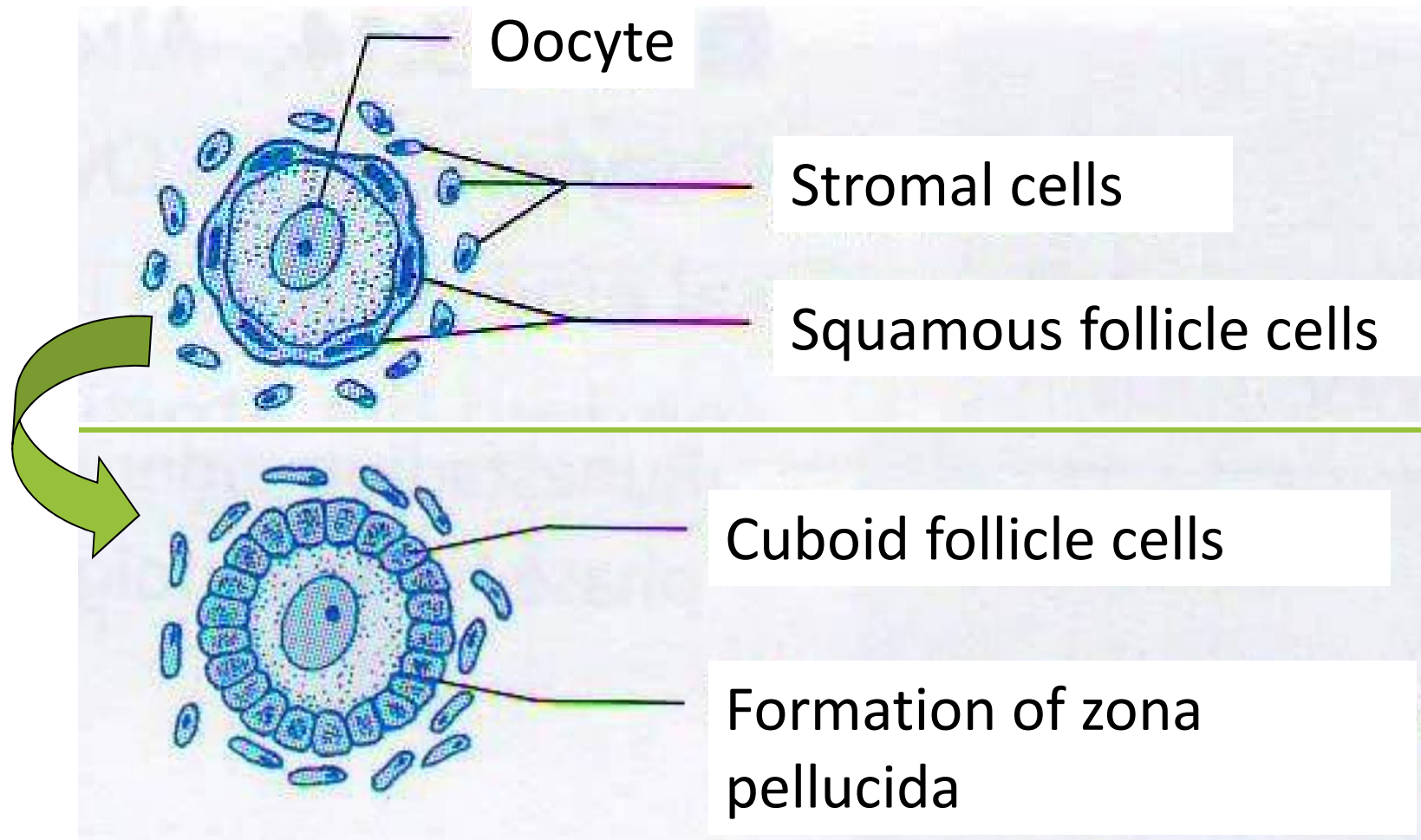
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Activation: The primary follicle



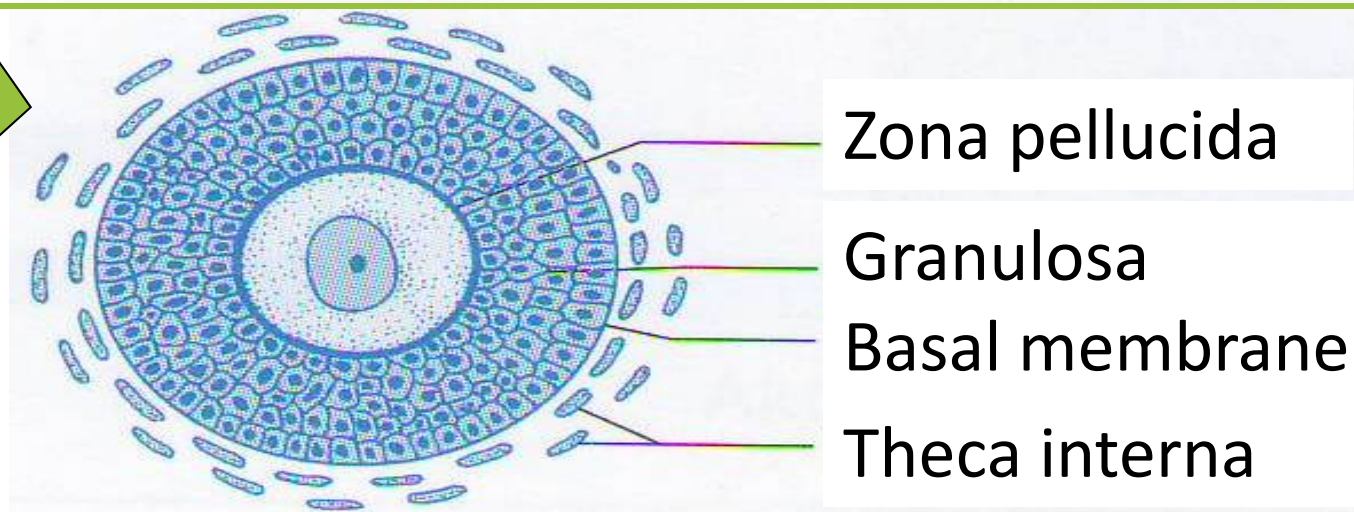
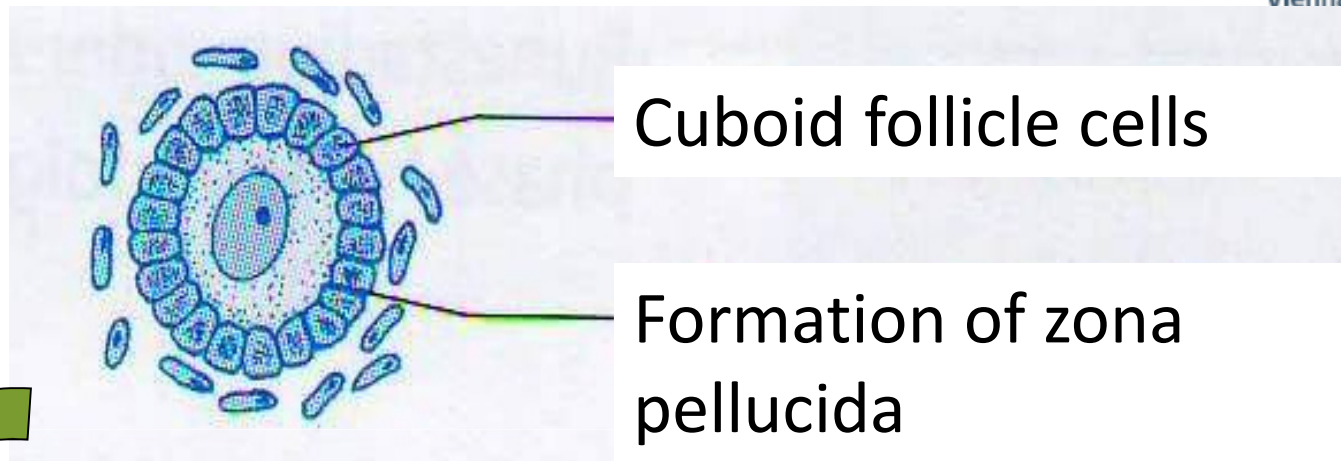
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The secondary follicle



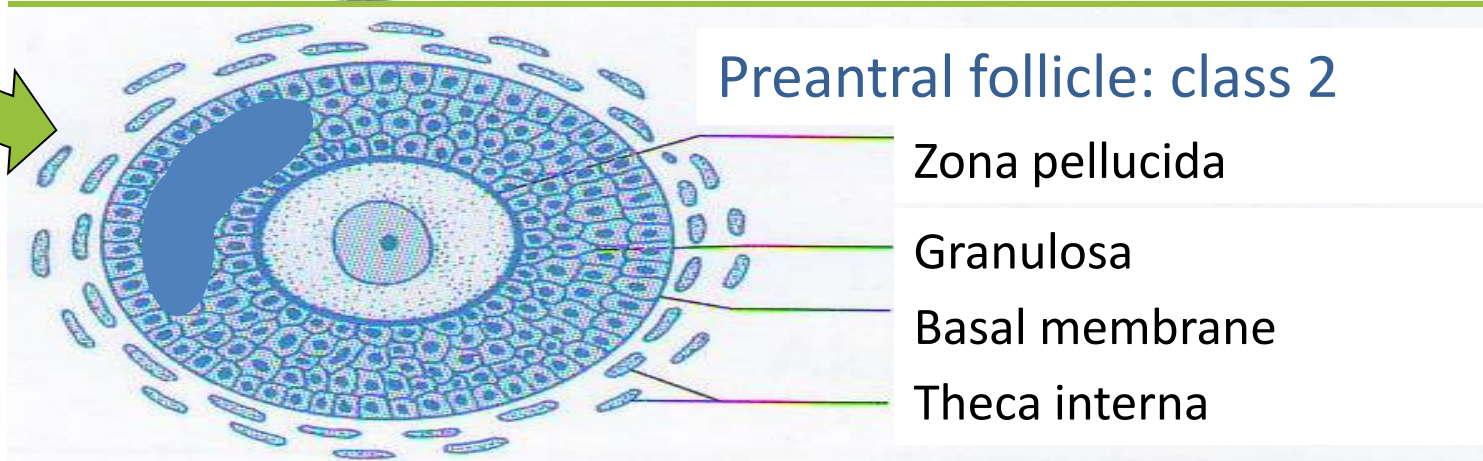
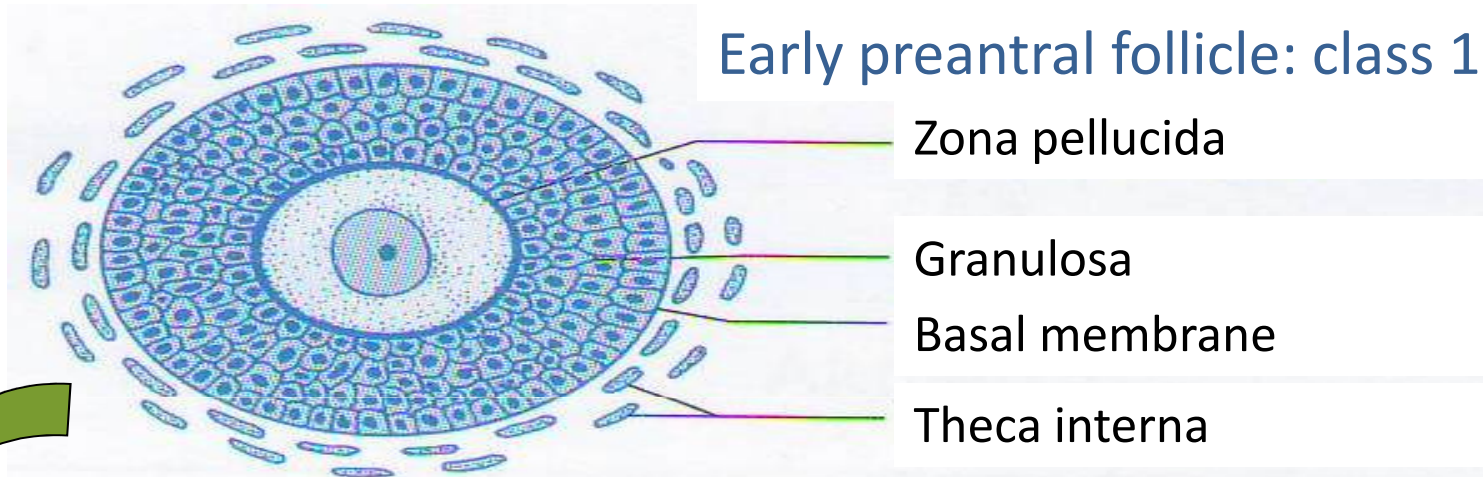
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The preantral follicle



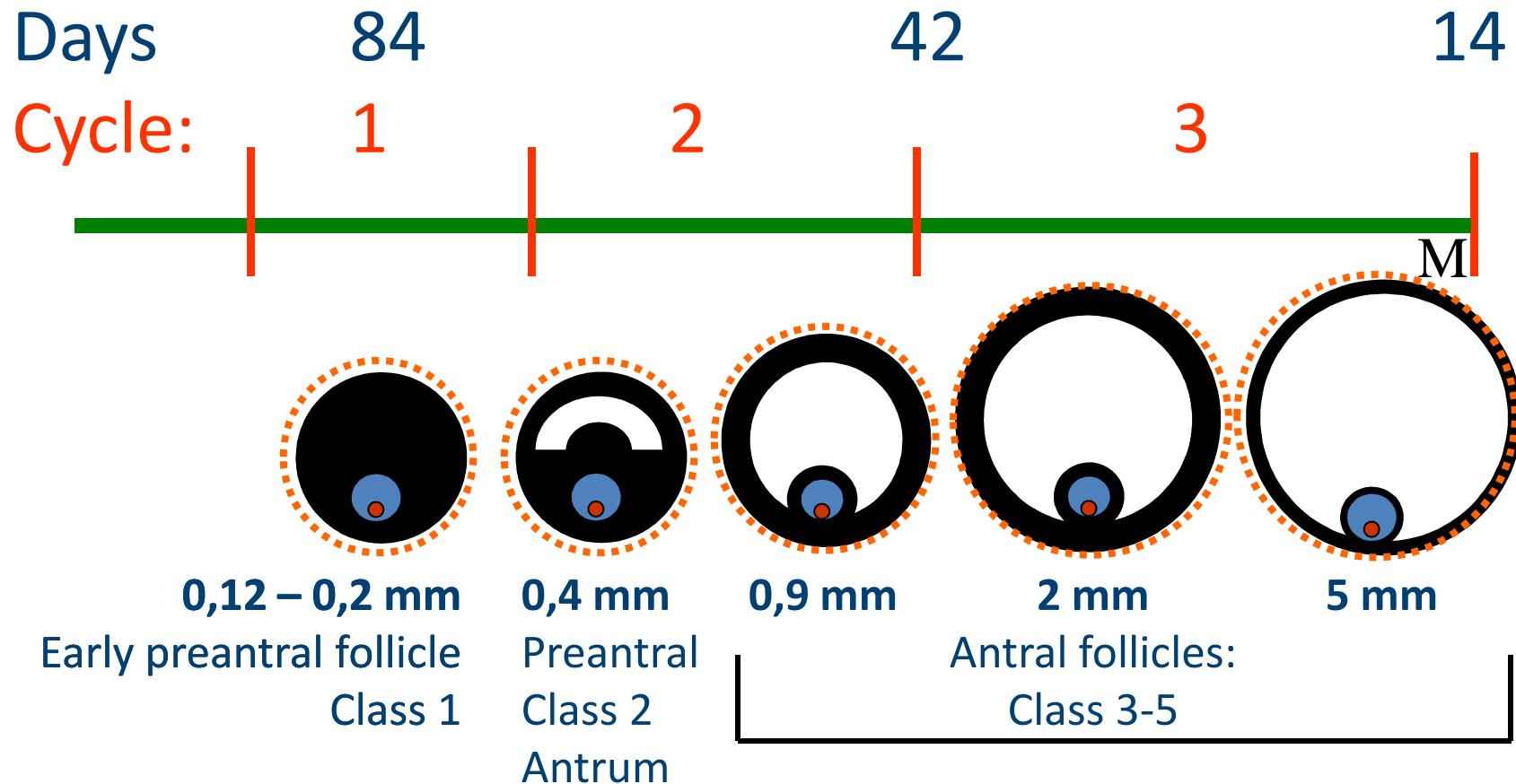
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Growth of follicles



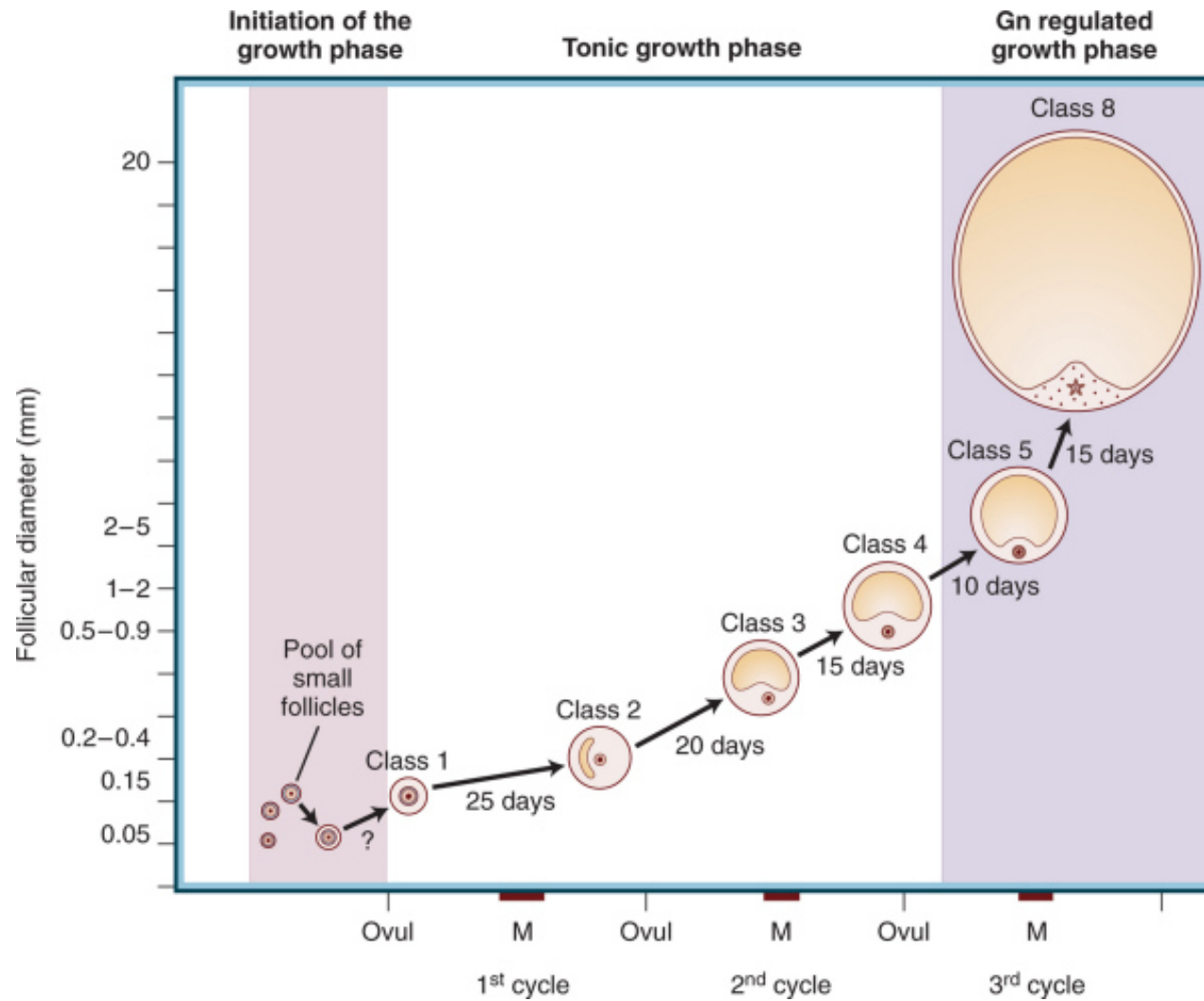
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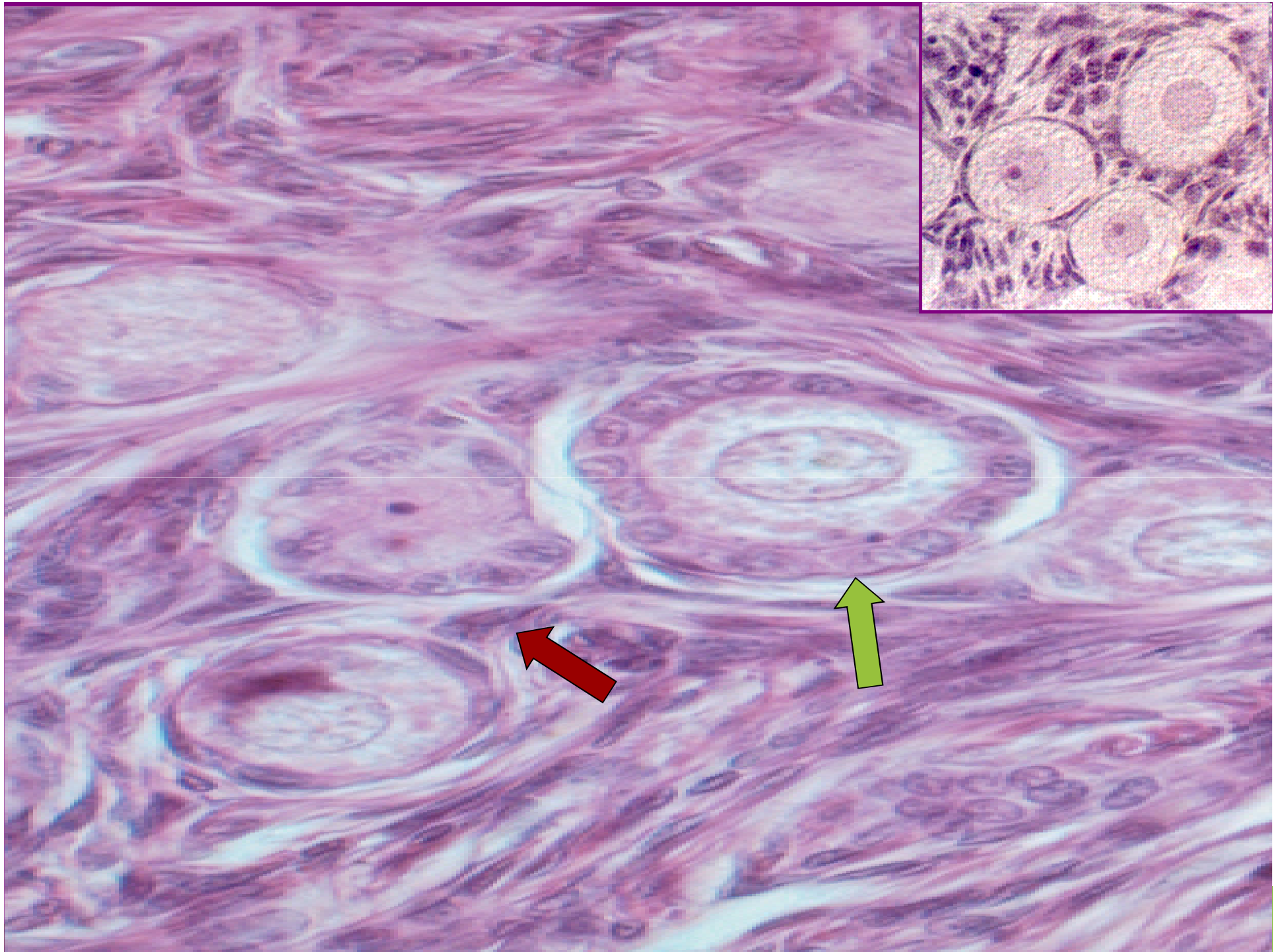


Follicular development

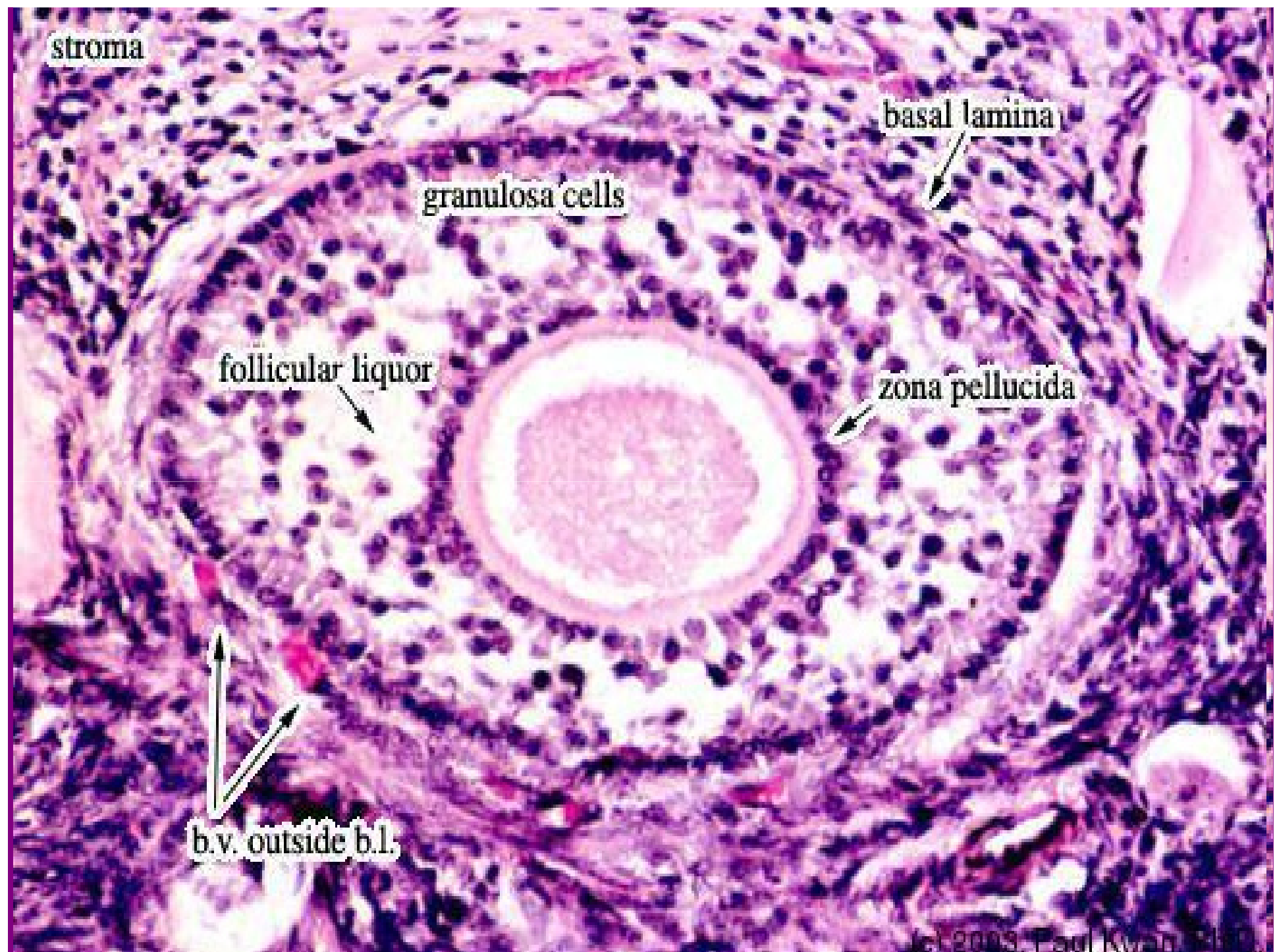


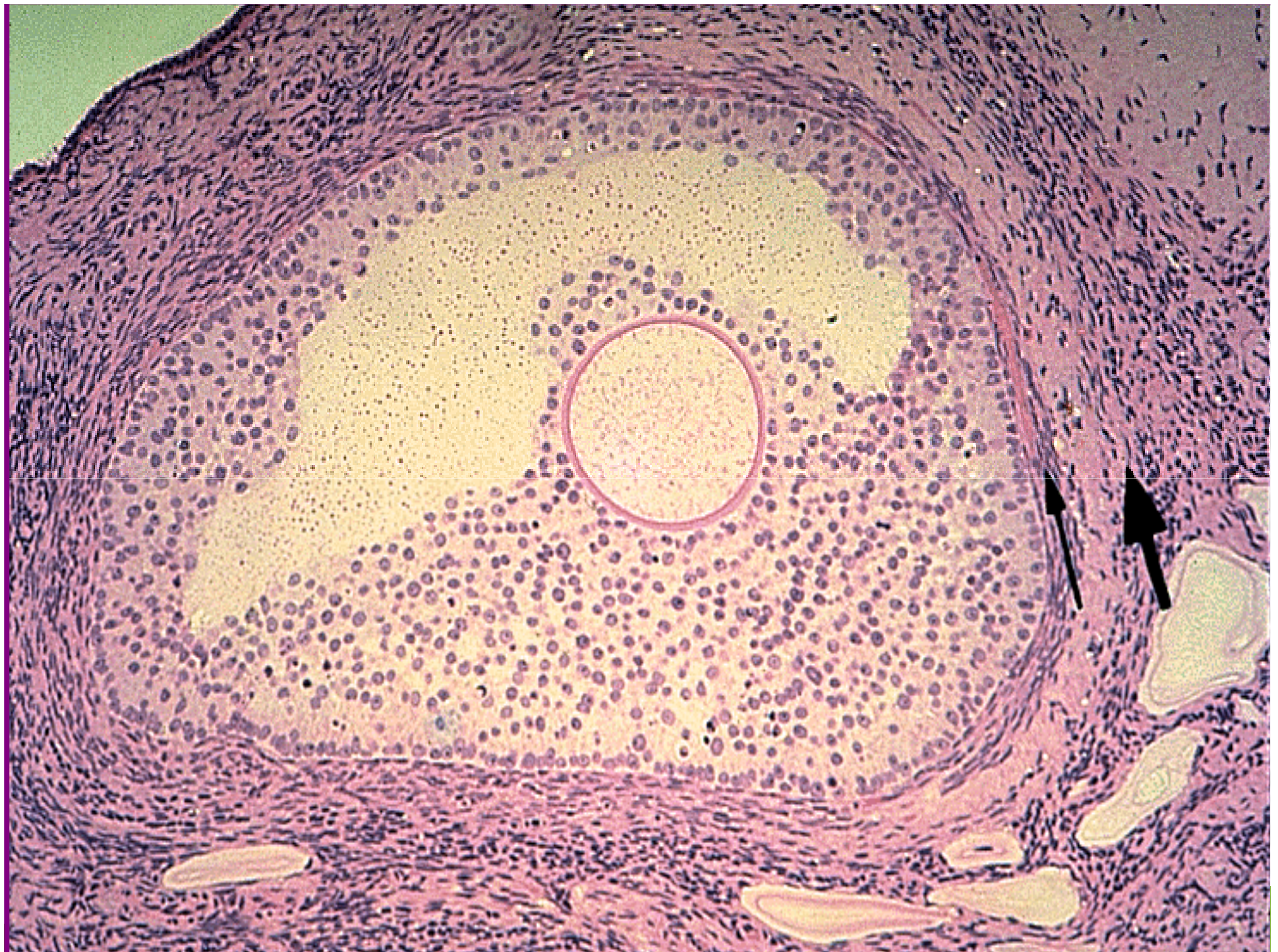
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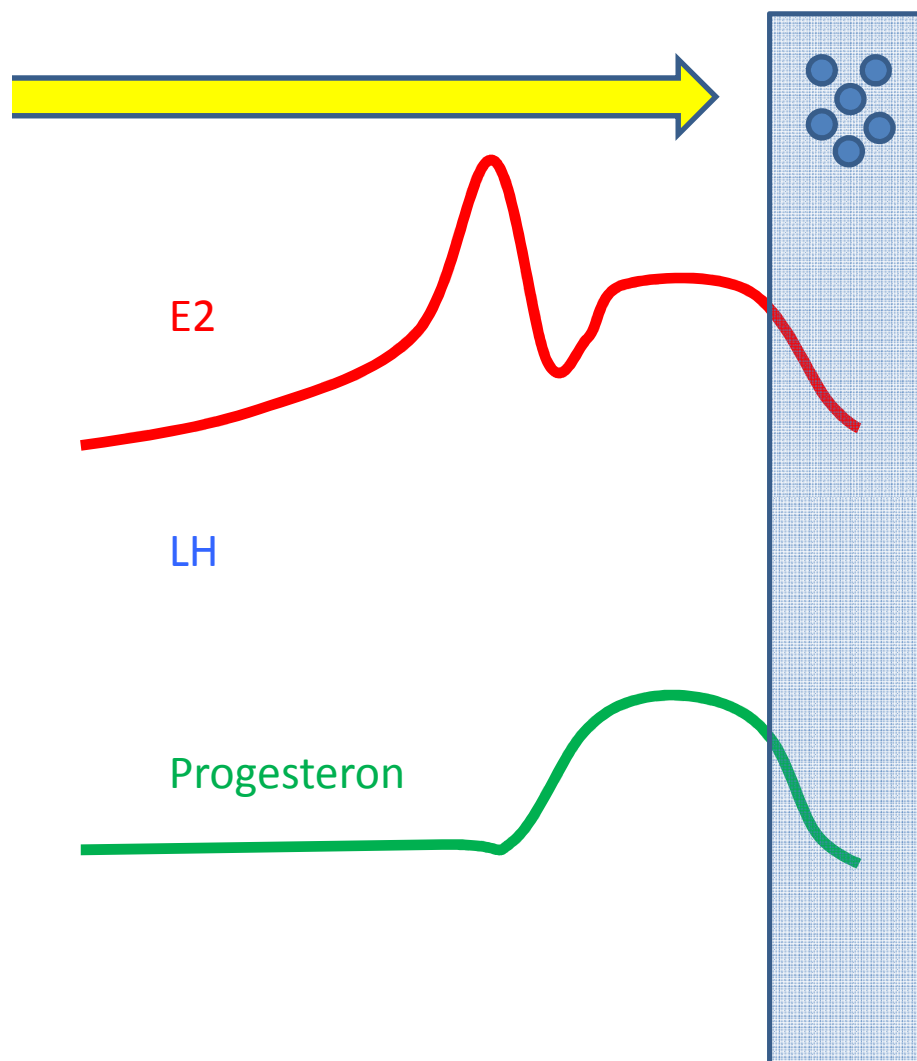




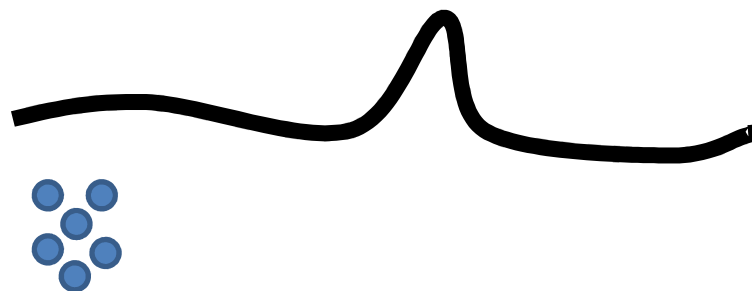




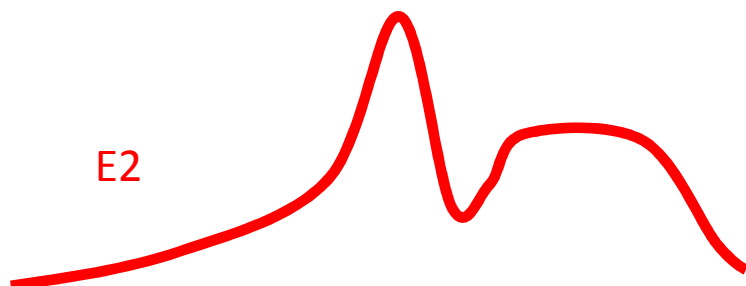
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FSH



E2



LH



Progesteron

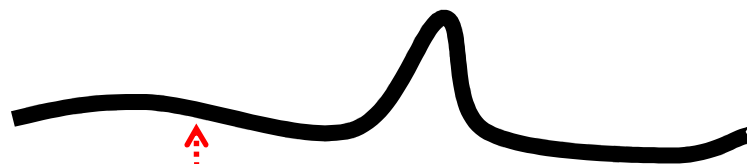


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FSH



E2



LH



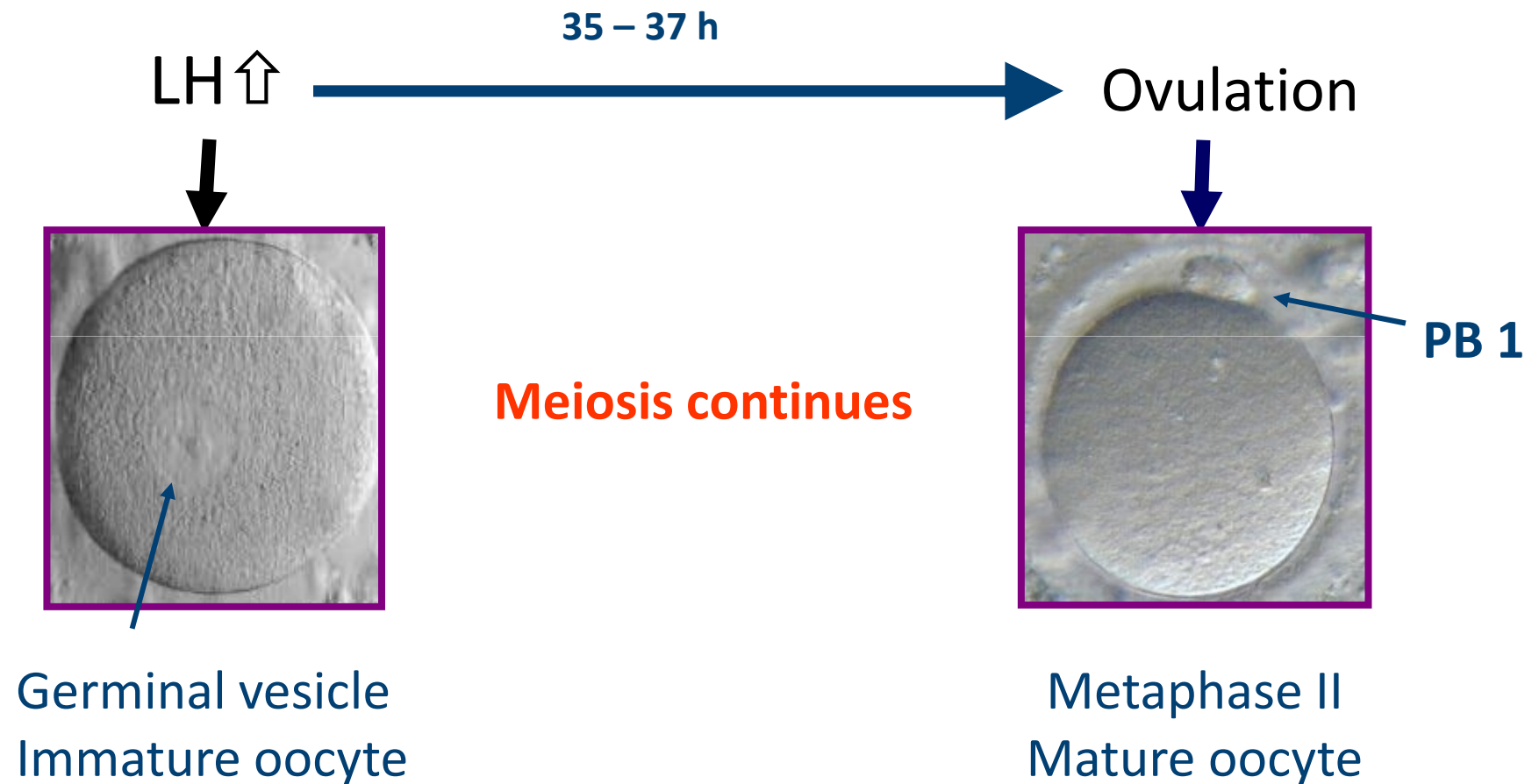
Progesteron



Ovulation



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← Polar body 1

← Homogeneous ooplasm

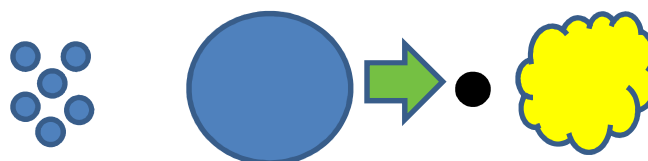
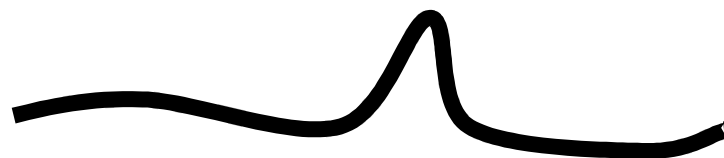
→ Diameter: 130-150 μm

← Zona Pellucida: 15 - 20 μm

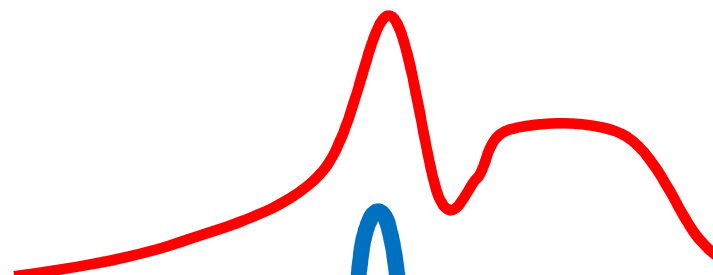


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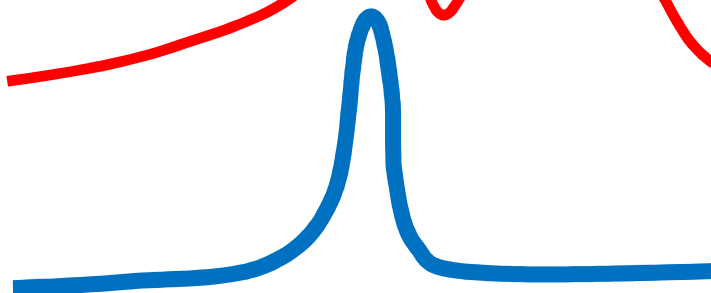
FSH



E2



LH



Ideas

- Menstrual cycle

Development and release of one mature oocyte

- In – vitro Fertilisation

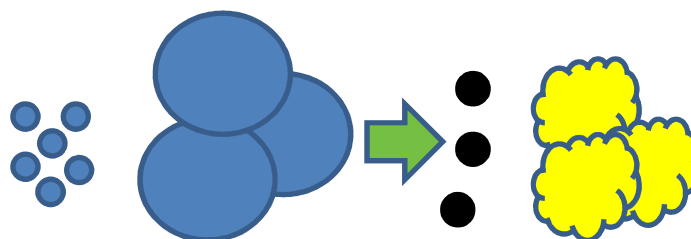
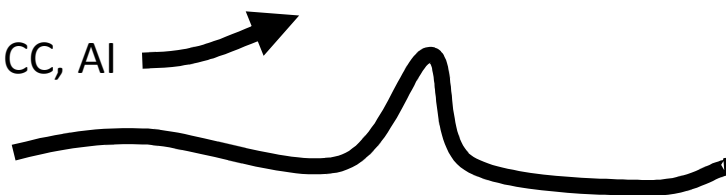
Development and collection of 12 to 15 mature oocytes without risk (OHSS, luteinisation)



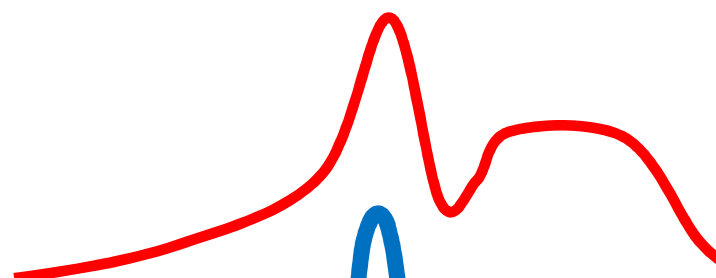
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Exogenous FSH, CC, AI

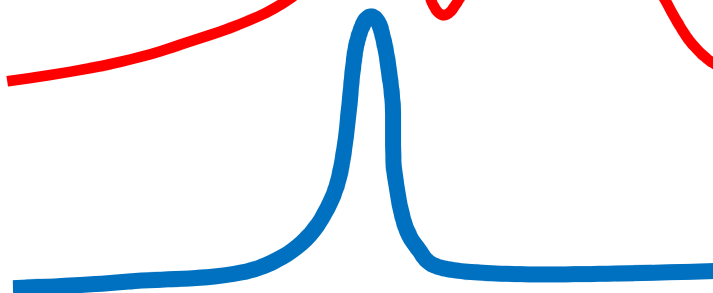
FSH



E2

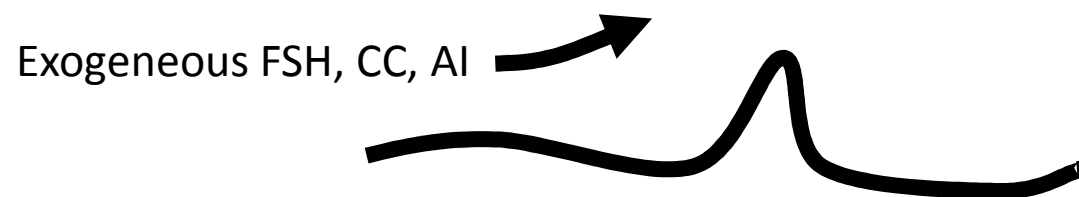


LH

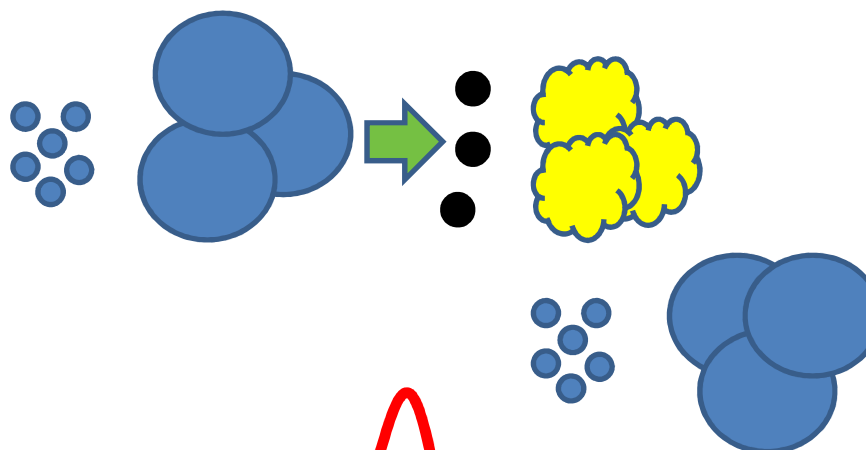




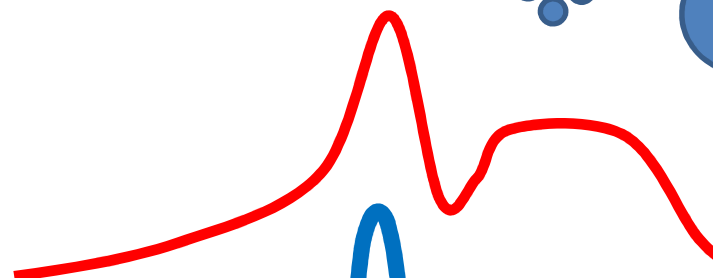
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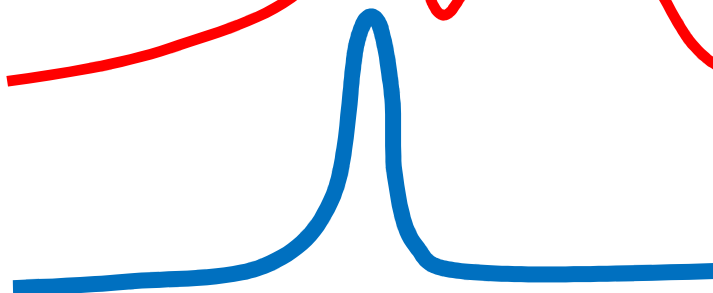
FSH



E2



LH





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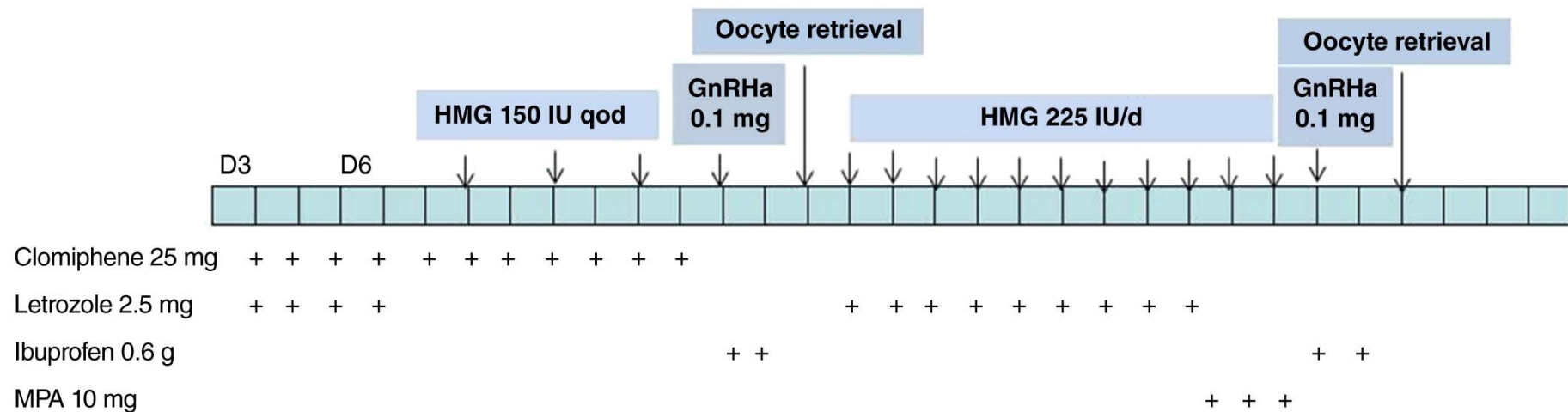
Double stimulations during the follicular and luteal phases of poor responders in IVF/ICSI programmes (Shanghai protocol)

Yanping Kuang ^{a,b,*}, Qiuju Chen ^{a,b}, Qingqing Hong ^{a,b}, Qifeng Lyu ^{a,b}, Ai Ai ^{a,b},
Yonglun Fu ^{a,b}, Zeev Shoham ^c

Luteal phase stimulation



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The optimal stimulation



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POF

PCO

Endometriosis

Unilateral adnexectomy

44 years old

Male factor

Tubal factor

Egg donor

Testicular biopsy is planned

History of breast cancer

Social egg freezing



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Success

- safety
 - OHSS
 - premature luteinisation
- efficacy - number of healthy eggs
- convenience for the patient
 - side effects
 - number of injections
 - economic aspects
- convenience for the team
 - schedule of ovum pick up
 - teaching of patients

Safety – the OHSS free clinic



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Consistent high clinical pregnancy rates and low ovarian hyperstimulation syndrome rates in high-risk patients after GnRH agonist triggering and modified luteal support: a retrospective multicentre study

Stamatina Iliodromiti^{1,*}, Christophe Blockeel², Kelton P. Tremellen³, Richard Fleming¹, Herman Tournaye², Peter Humaidan^{4,†}, and Scott M. Nelson^{1,†}

Human Reproduction, Vol.28, No.9 pp. 2529–2536, 2013



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The OHSS free clinic (OFC)

1. Use an antagonist protocol
2. Use a GnRH agonist to trigger final oocyte maturation
3. Freeze all embryos (vitrification)
 - Better endometrium
 - Reduction of ectopic pregnancy
 - Better perinatal outcome

Safety – luteinisation



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- **Diminished ovarian reserve** is the predominant risk factor for gonadotropin-releasing hormone antagonist failure resulting in breakthrough luteinizing hormone surges in in vitro fertilization cycles (Reichman, Fertil Steril 2014)
- Evidence of GnRH antagonist escape in **obese women** (Roth, J Clin Endocrinol Metab. 2014)

Efficacy – number of eggs



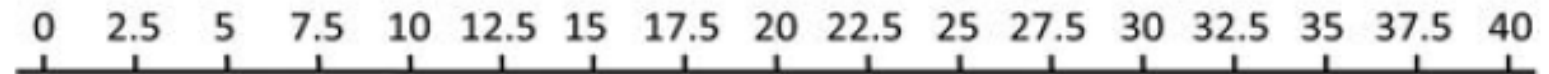
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Association between the number of eggs and live birth in IVF treatment: an analysis of 400 135 treatment cycles

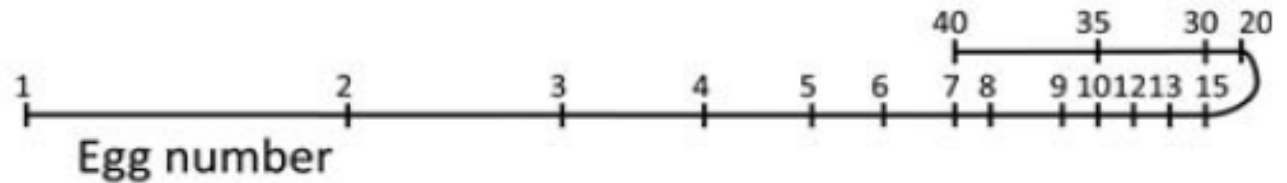
**Sesh Kamal Sunkara¹, Vivian Rittenberg¹, Nick Raine-Fenning²,
Siladitya Bhattacharya³, Javier Zamora⁴, and Arri Coomarasamy^{5,*}**

Human Reproduction, Vol.26, No.7 pp. 1768–1774, 2011

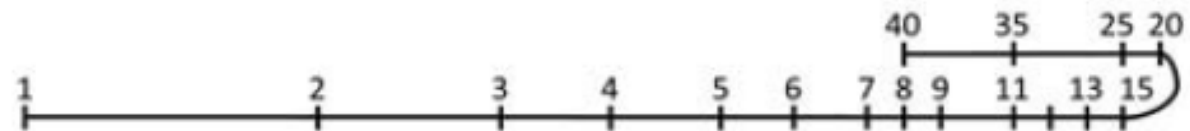
Predicted live birth (%)



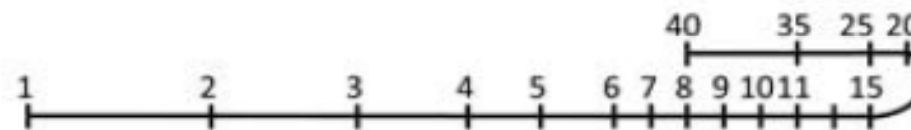
18 – 34 years



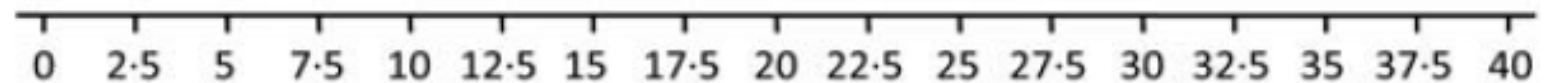
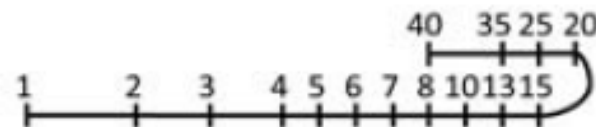
35 – 37 years



38 – 39 years

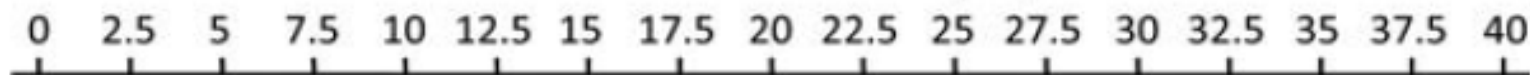


40 and over

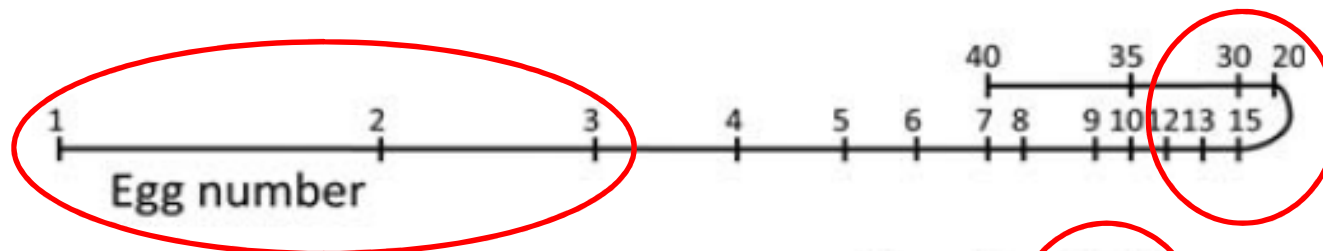


Predicted live birth (%)

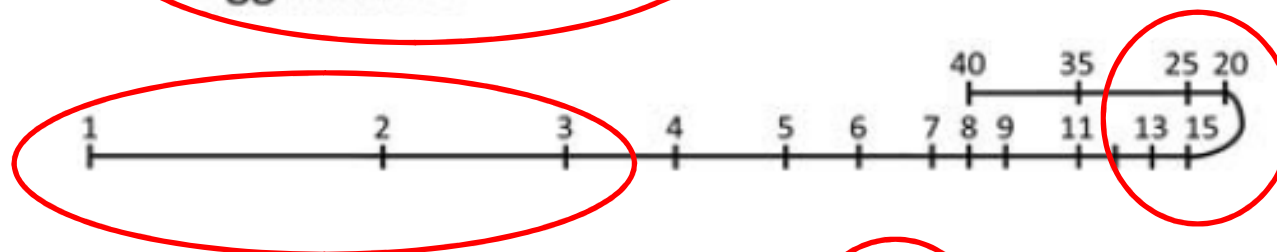
Predicted live birth (%)



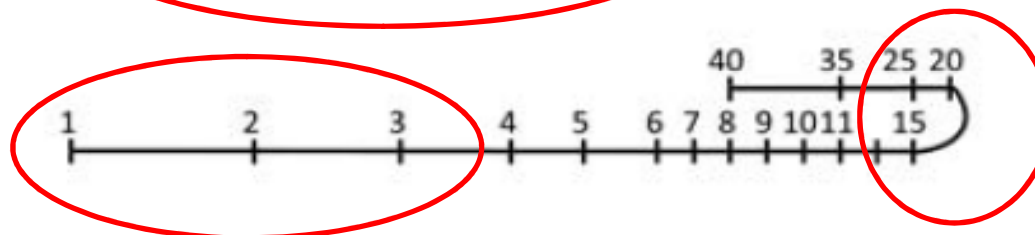
18 – 34 years



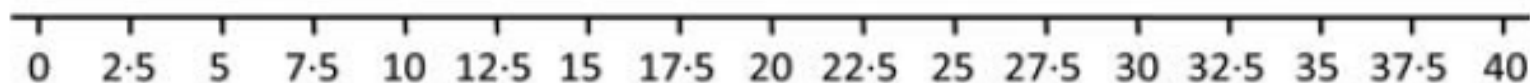
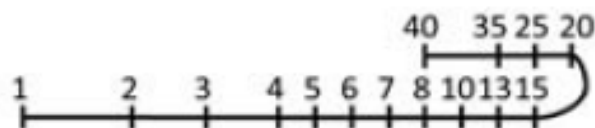
35 – 37 years



38 – 39 years



40 and over



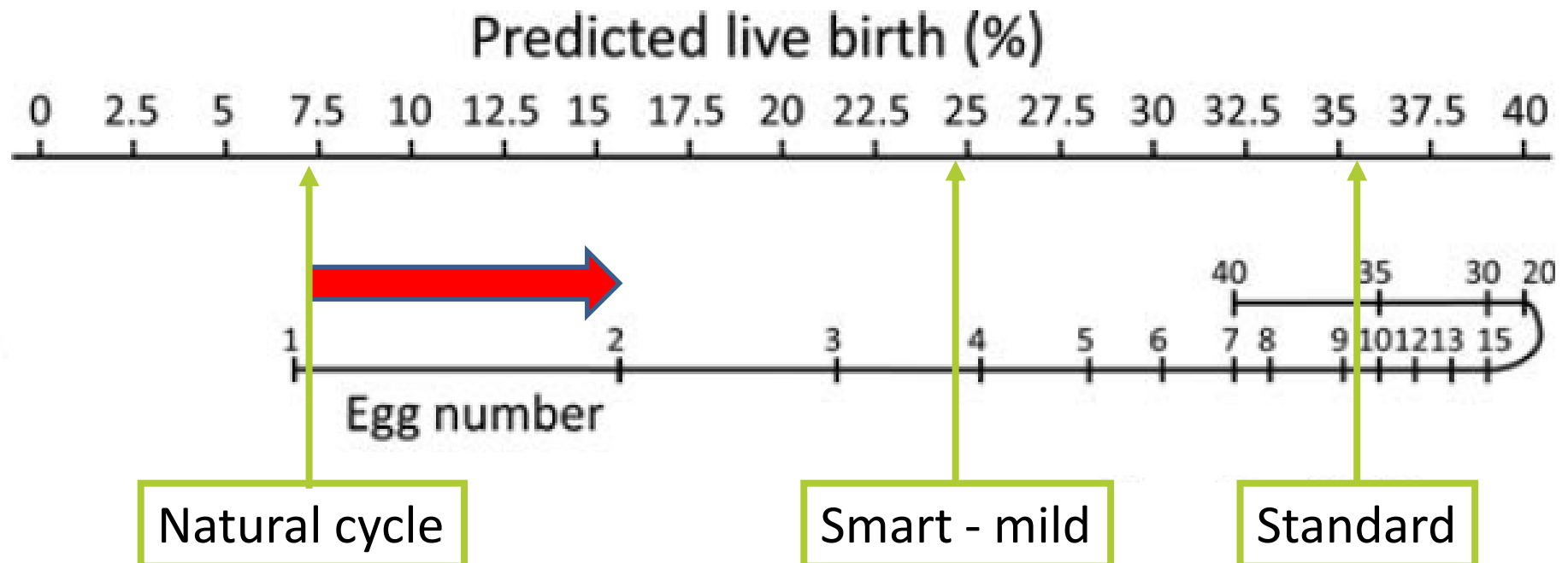
Predicted live birth (%)

Informed (!) consent



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18 – 34 years





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Our data suggest that around 15 eggs may be the optimal number to aim for in a fresh IVF cycle in order to maximize treatment success while minimizing the risk of OHSS which is associated with high number of eggs of >18

Cluster



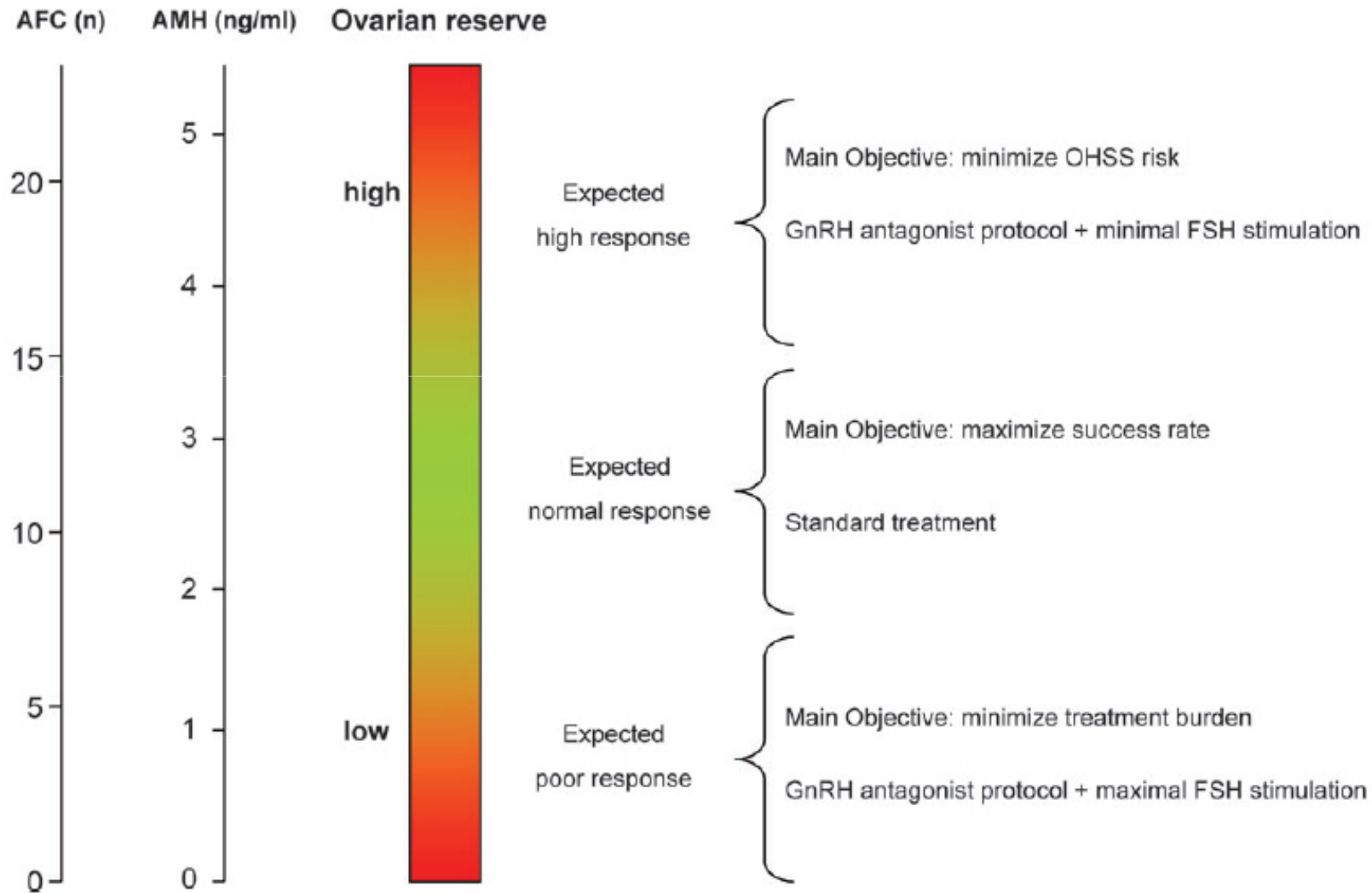
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- Female age
- Anti – Mullerian Hormone
- Antral Follicle Count
- Follicle Stimulating Hormone
- Luteinizing Hormone
- Estradiol
- Diagnosis - Background
- (Outcome of previous cycles)
- Smoking, BMI
- Patients decision (expenses, hormones, ...)

Algorithm



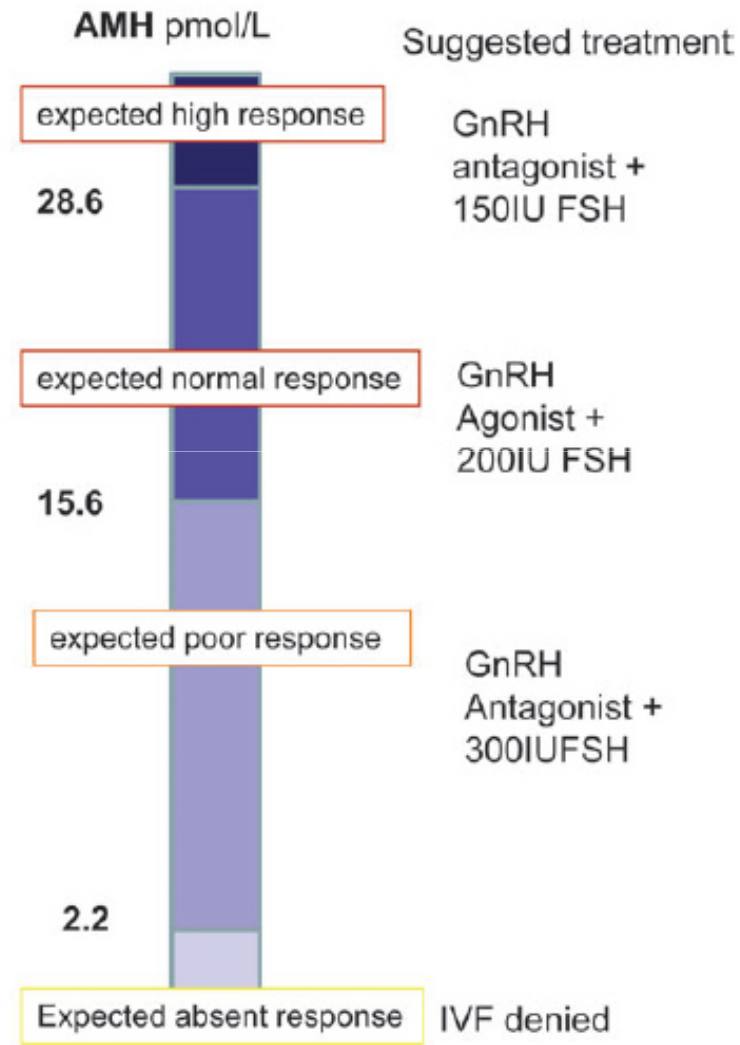
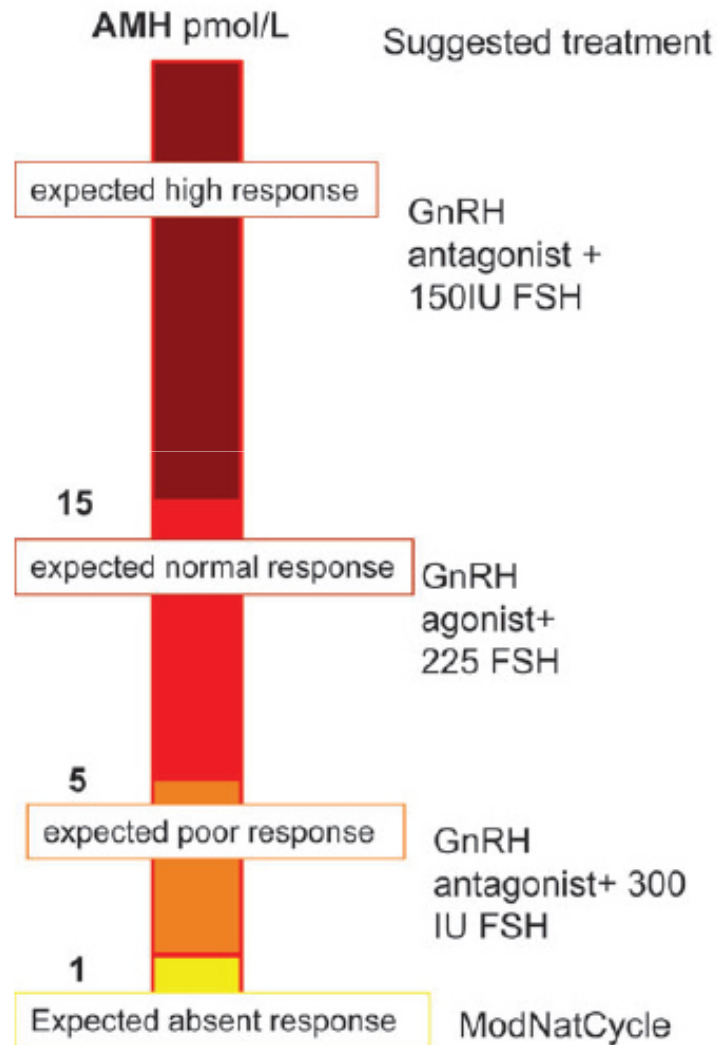
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Algorithm



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Cluster of response



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Poor

300 IU

Normal

150 μ g

High

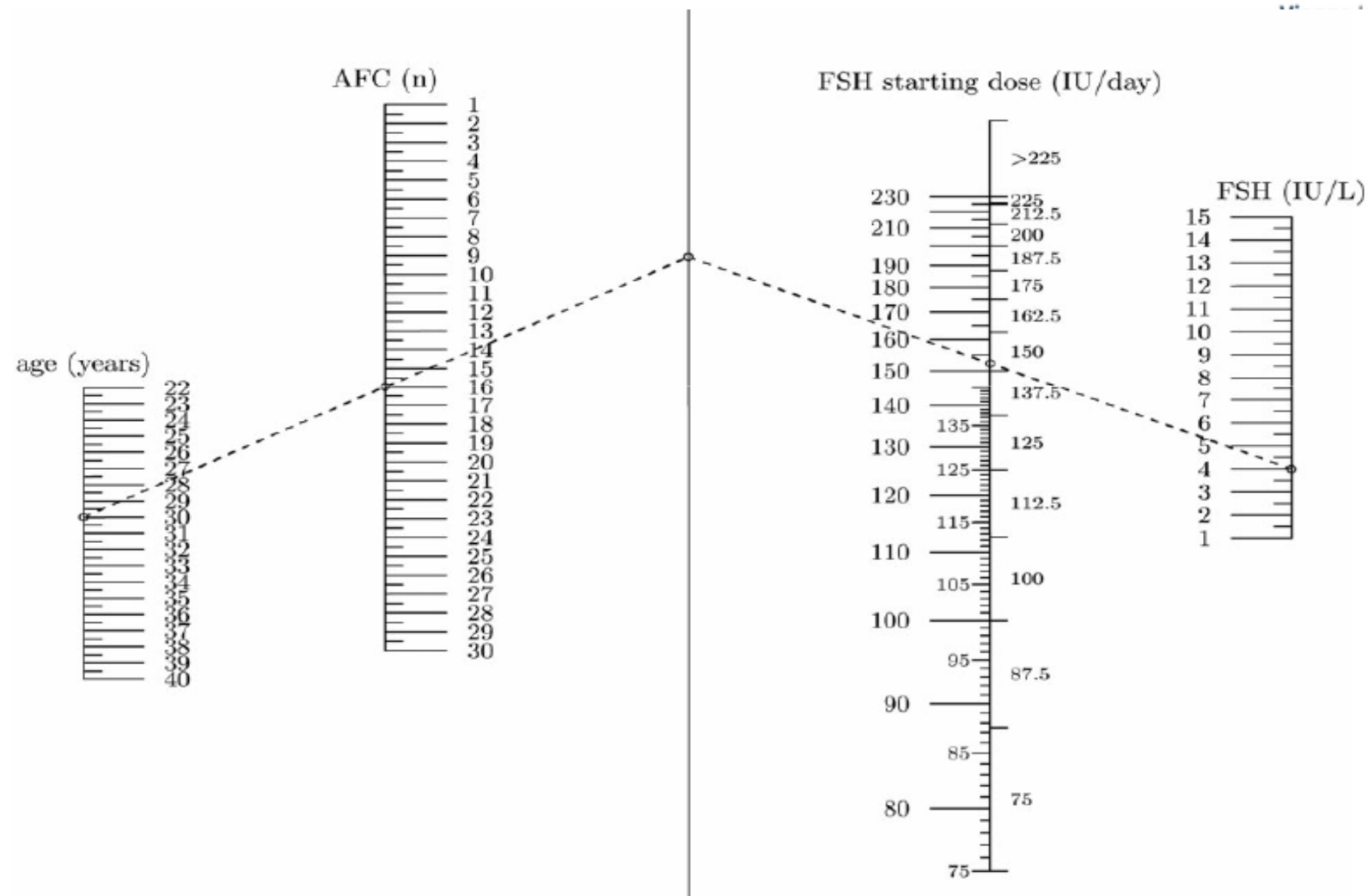
100 IU

Algorithm



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(In) Convenience (s)

- Number of injections
- Number of ultrasound appointments
- Number of blood tests
- Loss of working hours (productivity)
- Travelling
- Overall expenses

Convenience



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Patient preference for a long-acting recombinant FSH product in ovarian hyperstimulation in IVF: a discrete choice experiment

**L. van den Wijngaard^{1,*}, I.C.M. Rodijk¹, F. van der Veen¹,
M.H.W. Gooskens-van Erven², C.A.M. Koks², H.R. Verhoeve³,
B.W.J. Mol⁴, M. van Wely¹, and M.H. Mochtar¹**

Human Reproduction, Vol.30, No.2 pp. 331–337, 2015

Convenience



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Self-operated endovaginal telemonitoring versus traditional monitoring of ovarian stimulation in assisted reproduction: an RCT

**Jan Gerris^{1,*}, Annick Delvigne², Nathalie Dhont³,
Frank Vandekerckhove¹, Bo Madoc¹, Magaly Buyle¹, Julie Neyskens¹,
Ellen Deschepper⁴, Dirk De Bacquer^{4,5}, Lore Pil⁶, Lieven Annemans⁶,
Willem Verpoest⁷, and Petra De Sutter¹**

Human Reproduction, Vol.29, No.9 pp. 1941 – 1948, 2014

Sonaaura home monitoring



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Convenience



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Table V Average total cost per treatment attempt (€).

	NON-SOET (N = 62)	SOET (N = 59)
Ultrasound – paid by insurance	€143 (66)	€32 (44)
Ultrasound – paid by patient	€35 (16)	€8 (11)
Transport – paid by patient	€190 (265)	€51 (81)
Material – paid by insurance and/or patient	€0 (0)	€69 (0)
Productivity loss – paid by employer	€423 (381)	€96 (184)
Labour costs medical staff – paid by employer	€103 (39)	€199 (42)
Total	€894 (654)	€455 (284)



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QuinniWeb

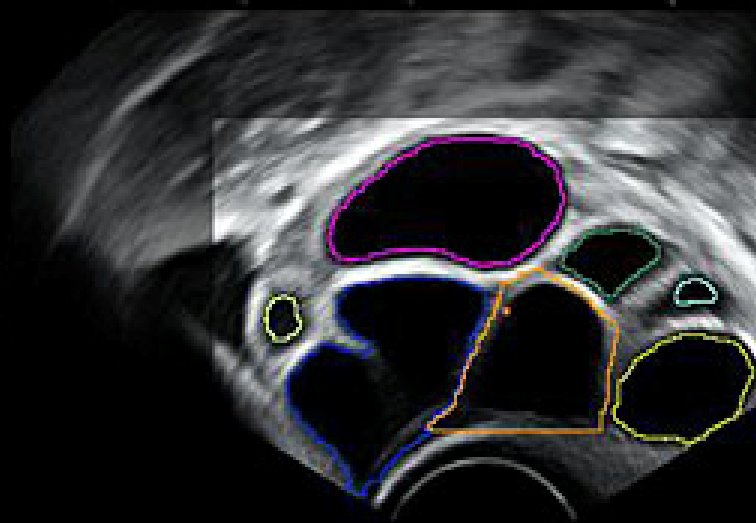
Get started.

Inhouse developed web platform to cover the medical history of infertility patients and to allow chat communication during treatment



RIC5-9W-RS/GYN

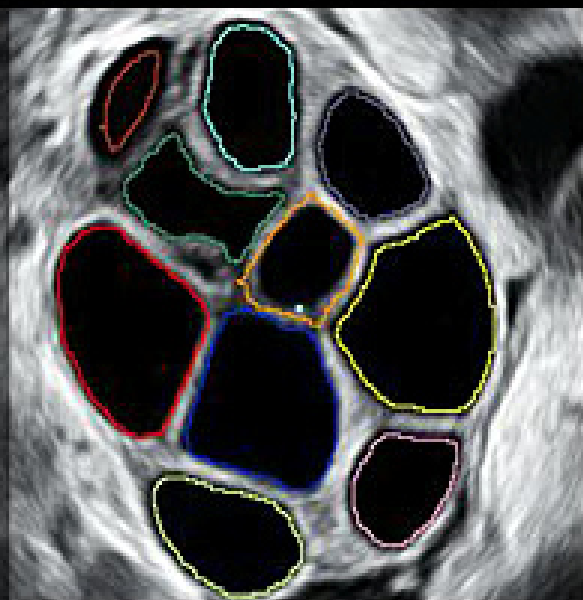
5.5cm / 35Hz



... 3D/4D ...
DEFAULT
Qual mid2
B127°/V120°
CRI 4
SR II 2D 3
SR II 3D 3
Sp Static

2D ...
Endometrium
Har-low
Pwr 100 %
Gn 6
C4 / M0
E3

A | B
C | 3D



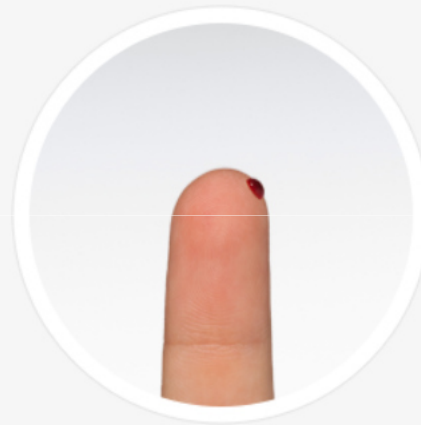
Theranos.com



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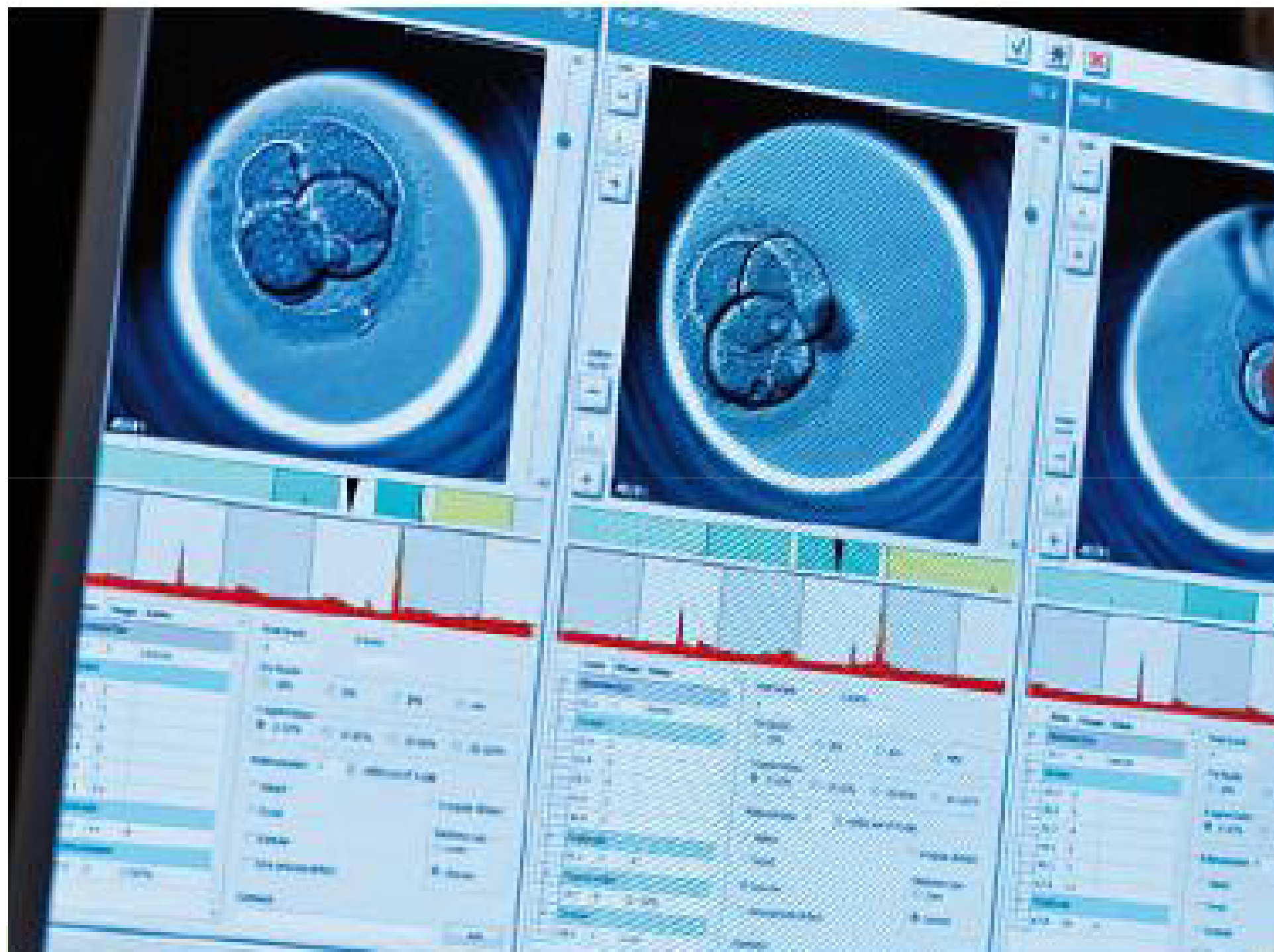
no big needles.



just a tiny sample.



the new way.



IVF 4.0

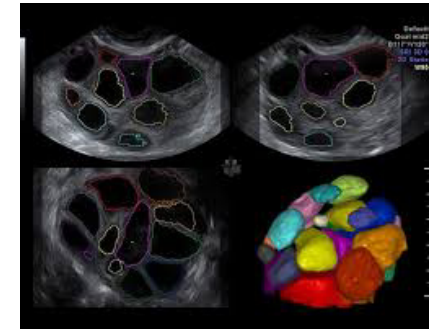
- Medical history

- quinniweb.com



- Home monitoring

- fertihome.com



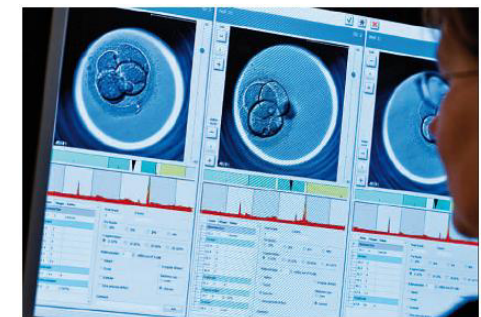
- Quick sampling

- theranos.com



- Scoring of embryos

- embryoscope.com





Благодаря, мамо.
Благодаря, тате.
Благодаря, Виена Ин Витро.

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