



IVM'in laboratura yonleri

2nd Congress of the Society of
Reproductive Medicine

October 1-4, 2009
Antalya, Turkey

IVM is no longer a new treatment



COPENHAGEN FERTILITY CENTER



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- Inclusion criteria
 - Protocols
 - OPU techniques
 - Laboratory procedures
 - Identification
 - Media preparation
 - Maturation
 - Results
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Inclusion criteria

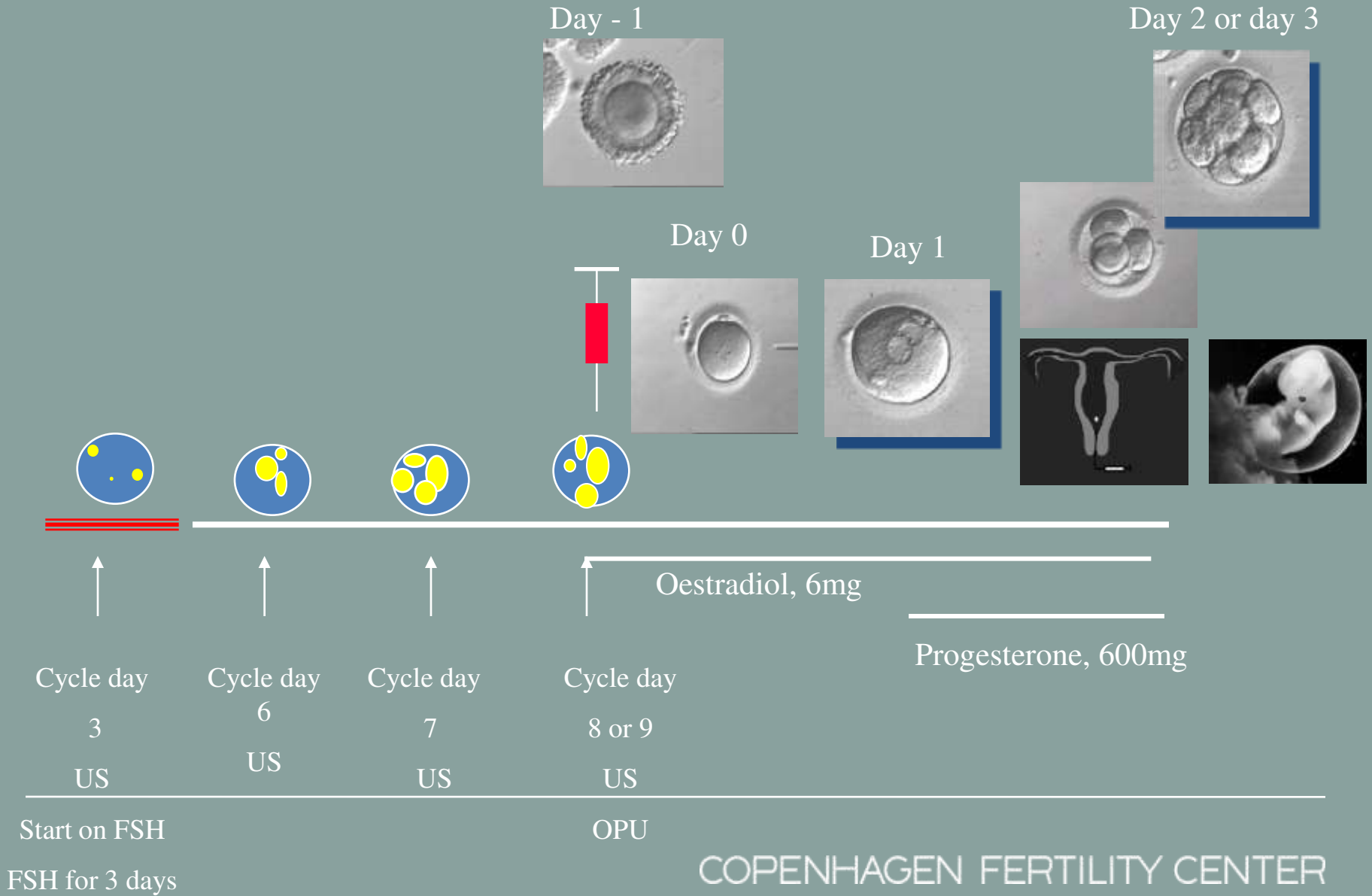
- Age 18-35
- Normal cycles length
- BMI between 18-30 kg/m²
- Cause of infertility
 - PCO & PCOS
 - Male
 - Tubal



Cancellation criteria cycle day 3:

- ≤ 5 antral follicles of 2-5 mm
- Ovarian cyst > 20 mm
- Endometrium > 4 mm or not fully exfoliated
- 1/3 of the patients will be cancelled on day 3

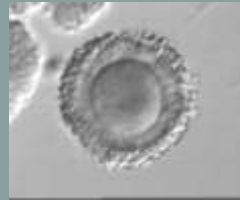
Protocol



Protocol



Day - 1



Day 2 or day 3



Day 0



Day 1



Oestradiol, 6mg

Progesterone, 600mg

Cycle day

Cycle day

Cycle day

8-11

3

7-10

US

US

US

OPU

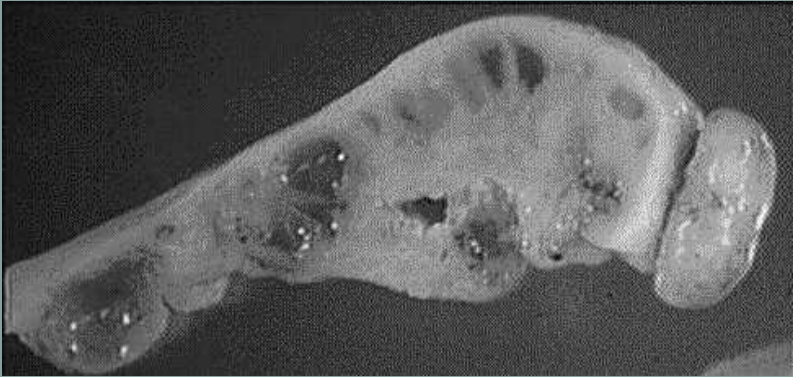
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OPU

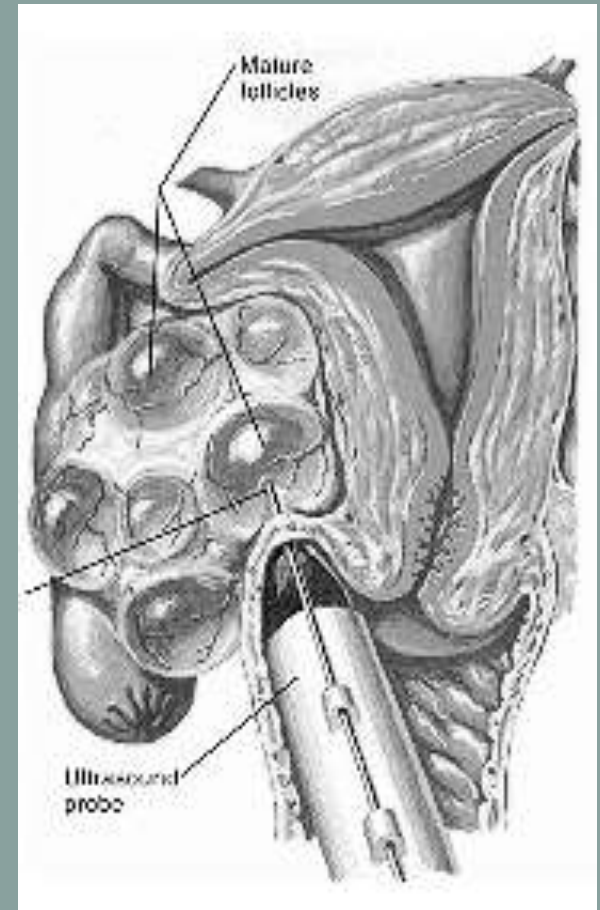
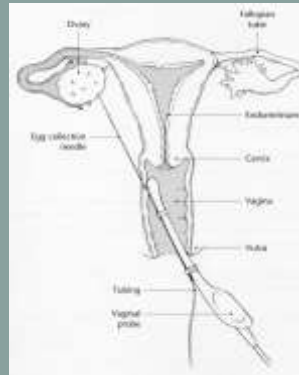


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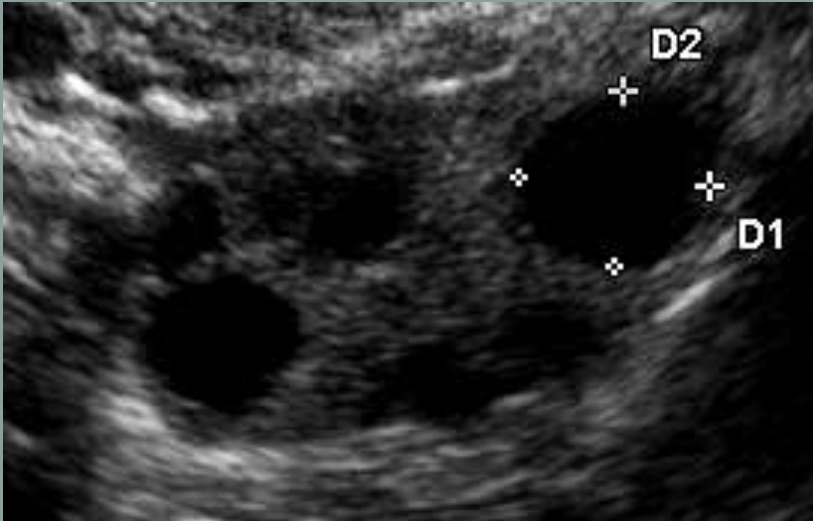
OPU



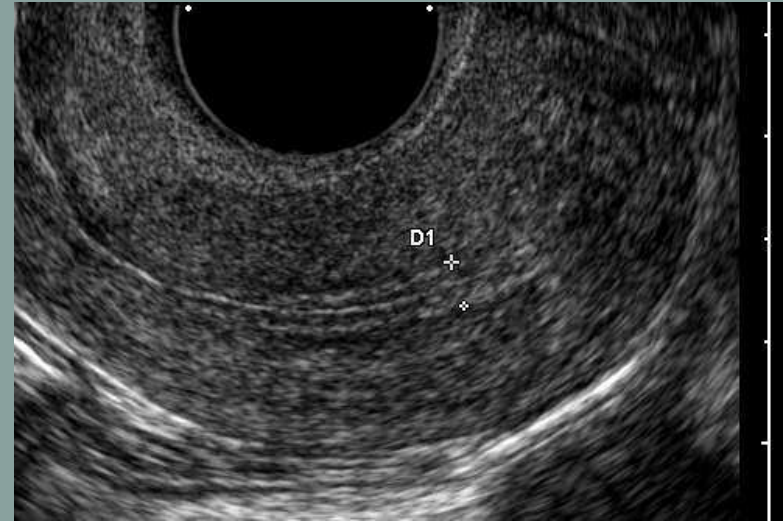
Ovaries on day 3,
are from 1-8 cm³



OPU



Leading follicle 10 mm



Endometrium 5 mm



Cohort follicles 5-6 mm

OPU



Diameter (mm)	Volume (mL)
5	0.06
6	0.113
7	0.179
8	0.268
9	0.381
10	0.523
11	0.696
12	0.904
13	1.150
14	1.436
15	1.767
16	2.144
17	2.572
18	3.053
19	3.591
20	4.188

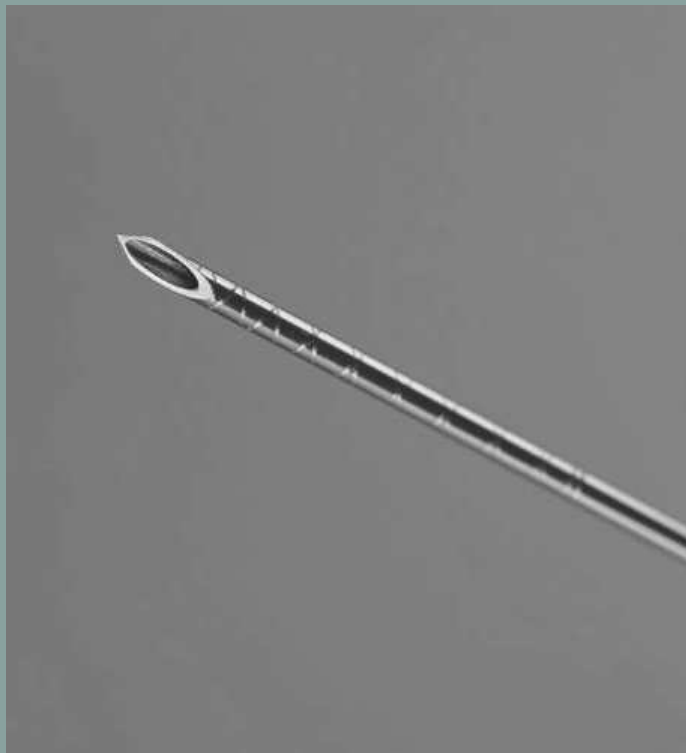
Needle	Volume (mL)
16 gauge, 35 cm	1.70
17 gauge, 35 cm	1.02
18 gauge, 35 cm	1.06
19 gauge, 35 cm	0.92
20 gauge, 35 cm	0.86

OPU

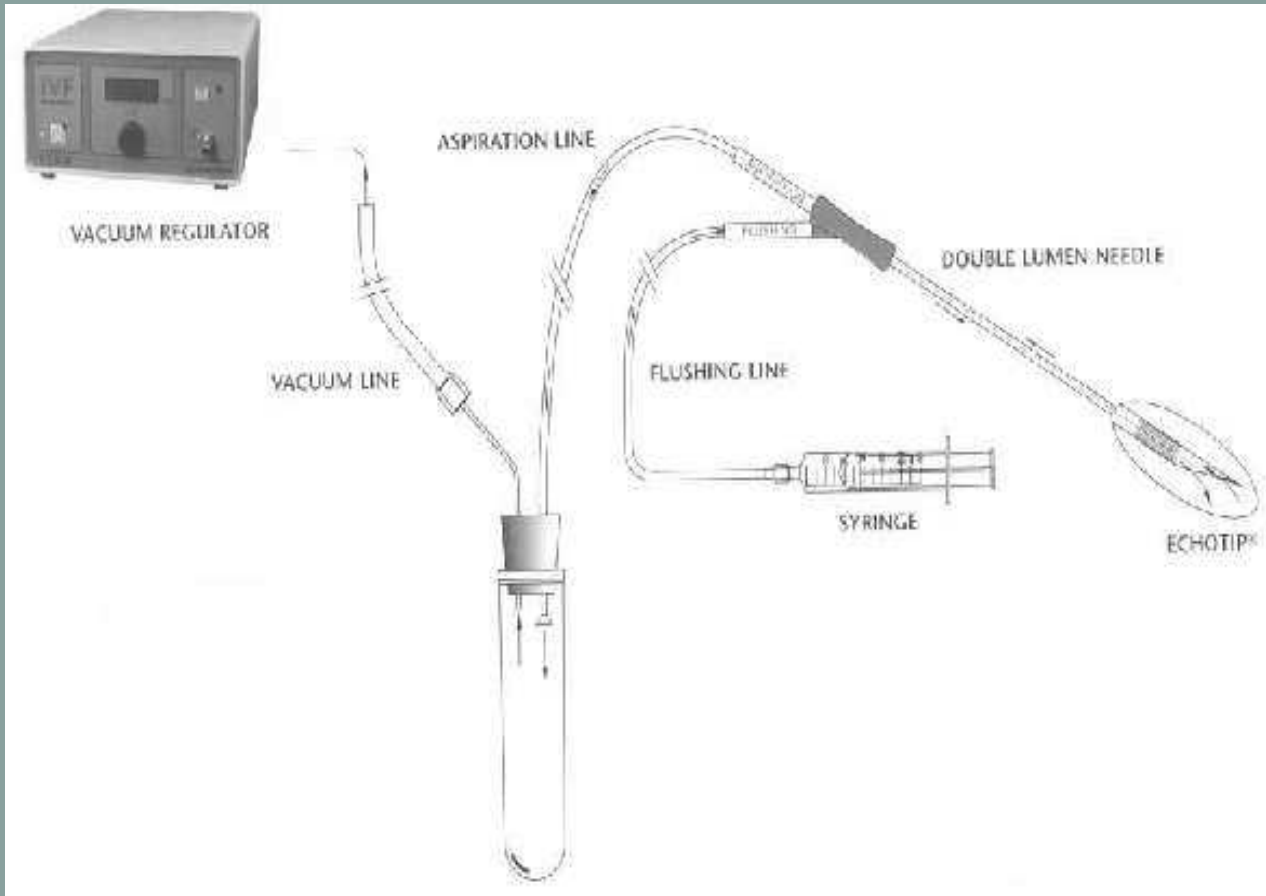


- Follicular volume and OPU
 - It is important to consider the volume of follicular fluid in a follicle in relation to the dead space in the aspiration needle and aspiration line.
 - To minimize trauma to the oocyte cumulus complex (OCC), we suggested that a continuous column of fluid within the aspiration needle is maintained. This helps prevent the OCC sticking to the wall of the needle or aspiration line.
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OPU



OPU



Pressure 80-100 mm Hg, 7.5-8.0 kPa

OPU



OPU



PCB: Septocaine or Citanest
Intravenous analgesia or
anaesthesia



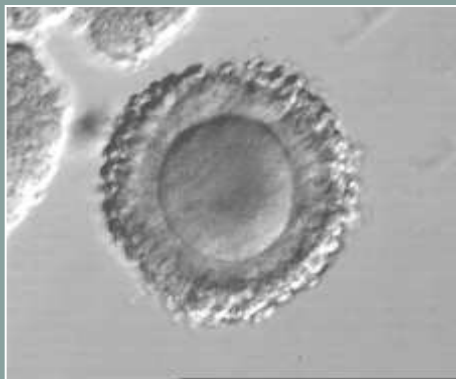
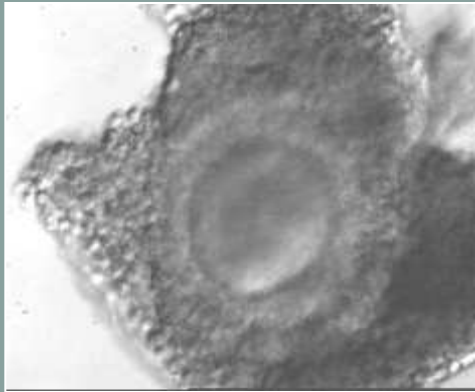
Laboratory procedures



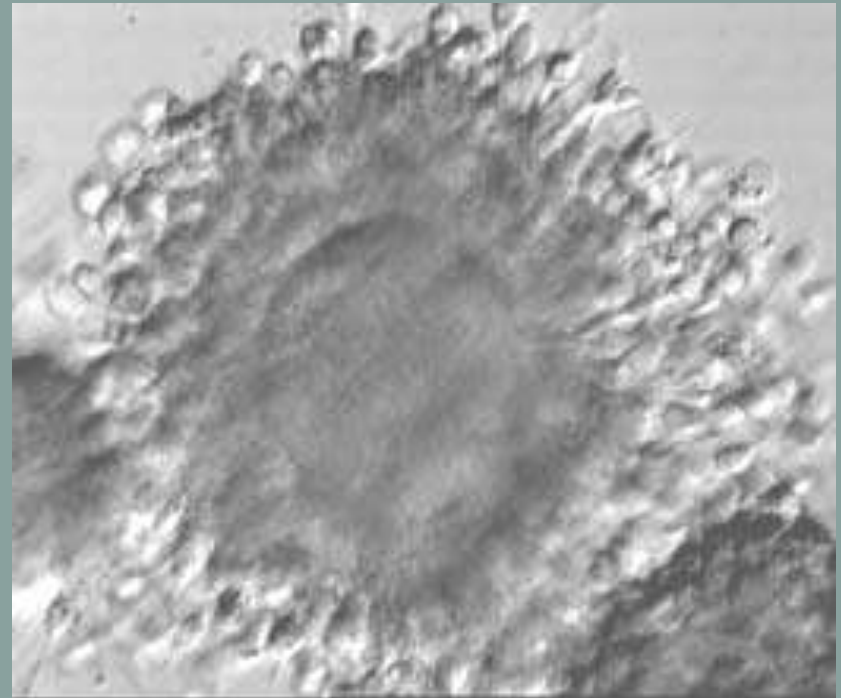
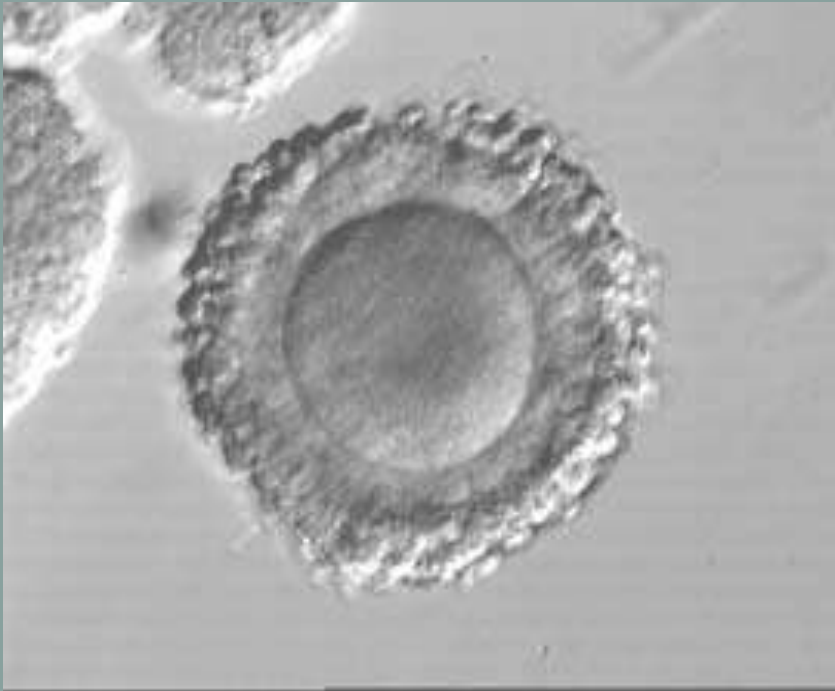
Laboratory procedures



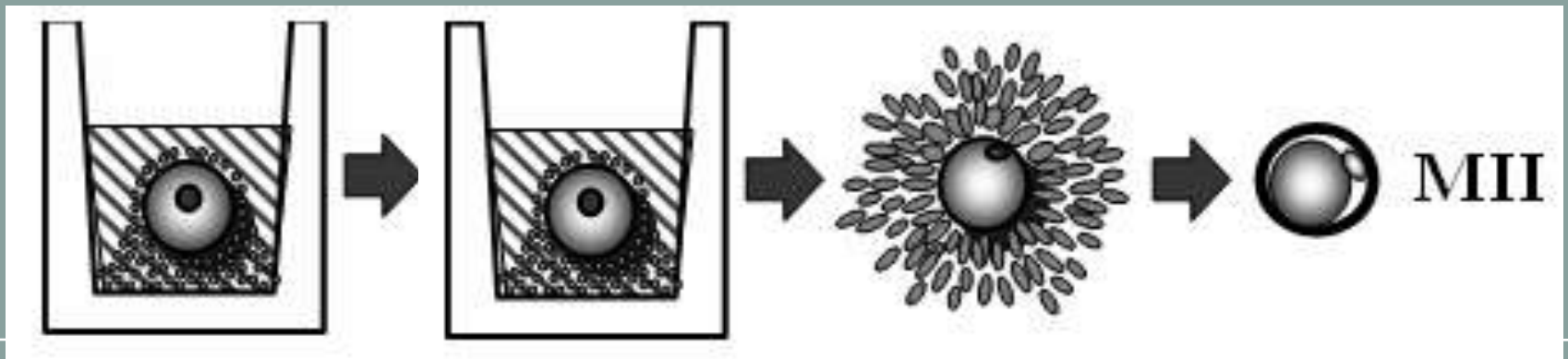
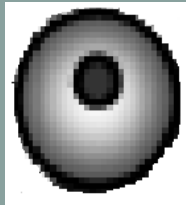
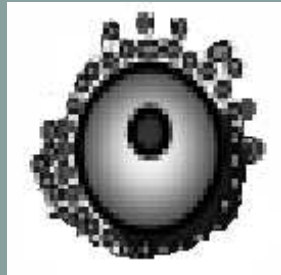
Laboratory procedures



Laboratory procedures



Laboratory procedures



Laboratory procedures



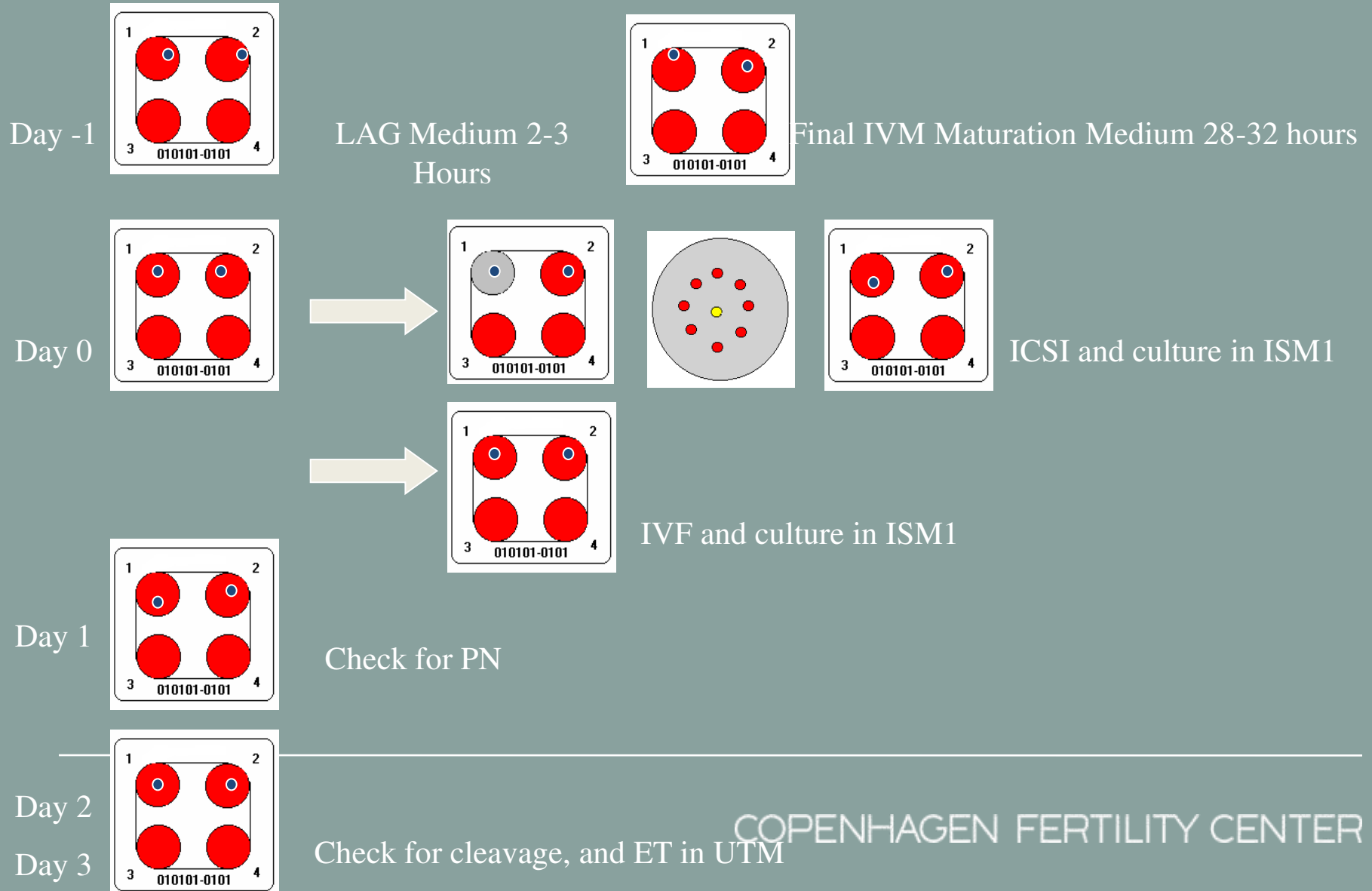
Laboratory procedures



Laboratory procedures



Laboratory procedures



Results



- We have made more than 800 IVM OPU
- We have learned much from trials and errors
 - Oocyte pick-up 224
 - Embryo transfer 109, 49%
 - Positive hCG 23
 - Pr. OPU 10,3%
 - Pr. ET 21,1%
 - Clinical pregnancies 18,3%



88 patients

44 for IVM

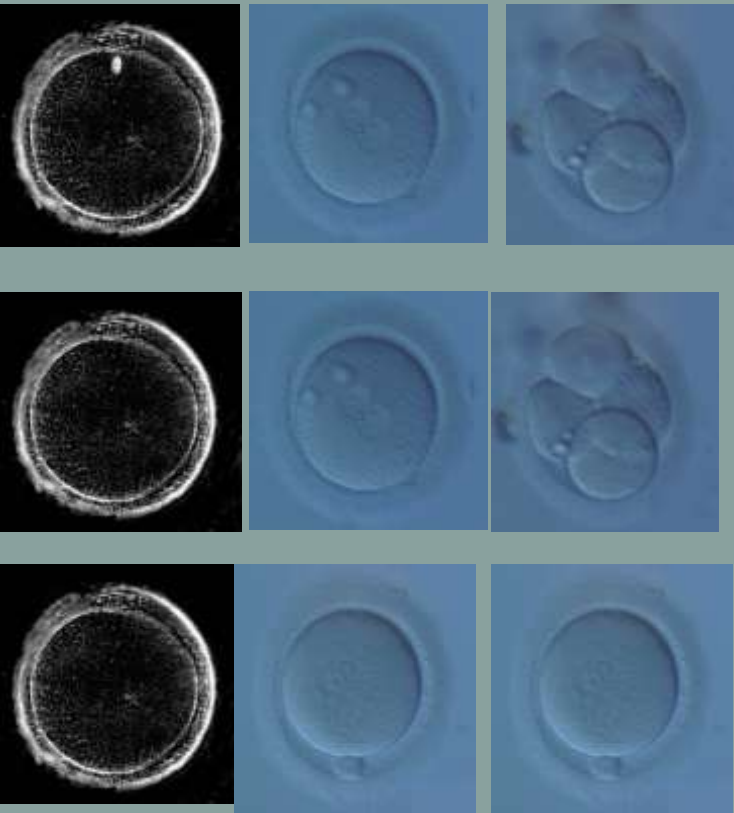
44 for ICSI

150 IU FSH

GnRh antagonist
FSH
hCG

6 mg Østradiol
600 mg Progesterone

600 mg Progeterone



	IVM	ICSI
MII (n)	116	224
MII + sp (n)	65 (56%)	100 (44%)
MII +sp +PN +Cl	60 (92%)	60 (21%)
MII -sp +PN +Cl	49 (42%)	118 (53%)
MII -sp -PN -Cl		



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- These findings indicate that in vitro matured human oocytes mature to MII normally having a normal spindle appearance after 28-32.
 - This indicate, that IVM matured oocytes if they reach to MII are normal, and the obvious lower implantation rate in IVM might be due to other factors such as endometrial problems during the IVM procedure.

Do IVM have a future?



- Optimize the protocols, OPU technique, IVM Media and preparation of the endometrium
 - IVM in donor program
 - The treatment for the donor is less invasive
 - Immature oocyte freezing
 - Ovarian tissue
 - Maturation and culture
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