

# NaProTechnology

An Integrated Approach to Infertility

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# Outline

- Scientific foundations
- Illustrative case history
- Research
- Discussion and questions

# NPT

- Natural Procreative Technology(NPT) or NaProTechnology
- A systematic approach to normalize or optimize reproductive function in women and men
- Conception occurs naturally - in vivo

# NaProTechnology

Co-operates with the couple's natural procreative potential to achieve optimum function.

- Creighton Model Fertility *Care* System
- Medical Treatments
- Surgical Treatments
- Counselling - Stress Management

# NaProTechnology (NPT)

- Developed in USA (centered at Creighton University)
- 1980 Creighton NaProTracking
- 1991 first monograph on systematic medical approach
- 2004 textbook published on medical and surgical aspects

AT its simplest level NaProTechnology uses a wide range of medical and surgical interventions to correct abnormal

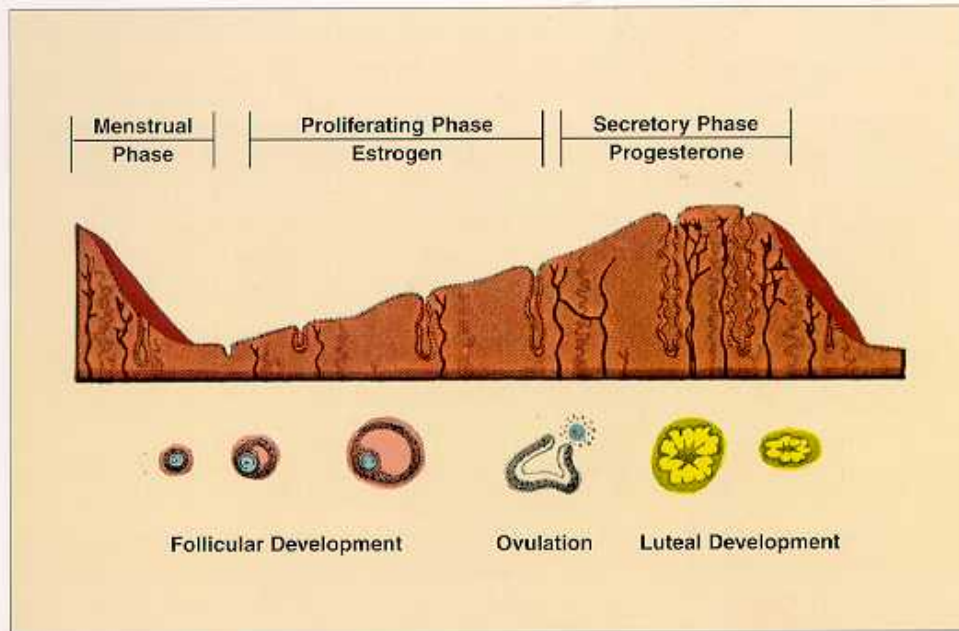
1. Fertility*Care* Charting patterns
2. Subtle hormonal deficiencies
3. Ovulation defects
4. Surgical / structural abnormalities

Most of the medical and surgical techniques have been used previously, but NPT integrates these in a fertility charting system (NaPro Tracking) that empowers the patient and provides key information to guide investigation and treatment.

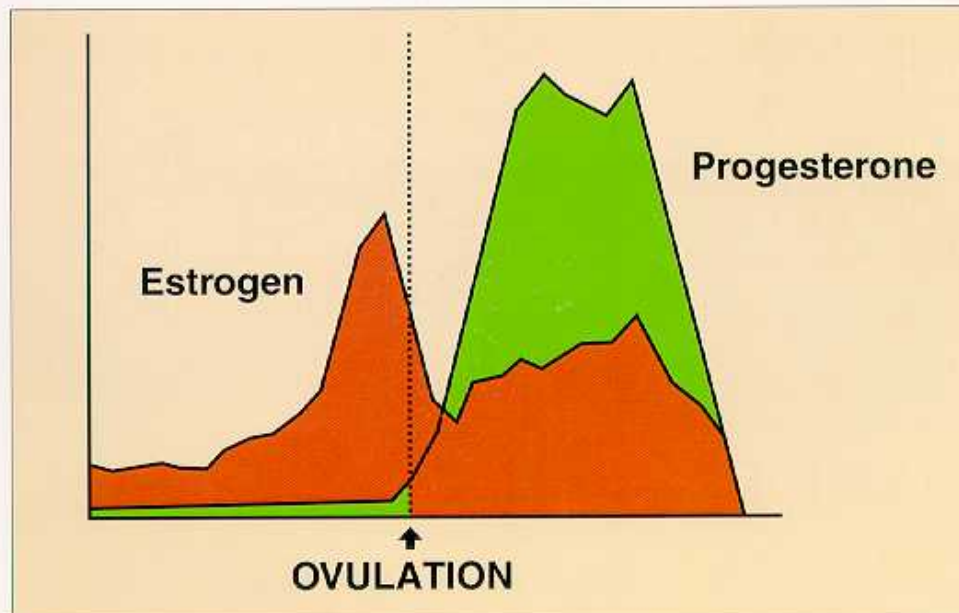
**Creighton Model NaPro Tracking is  
the cornerstone, foundation, and  
unifying framework for NPT.**

A Standardised Modification of the  
Billings Ovulation Method  
Taught by trained health educators  
(FertilityCare Teachers)

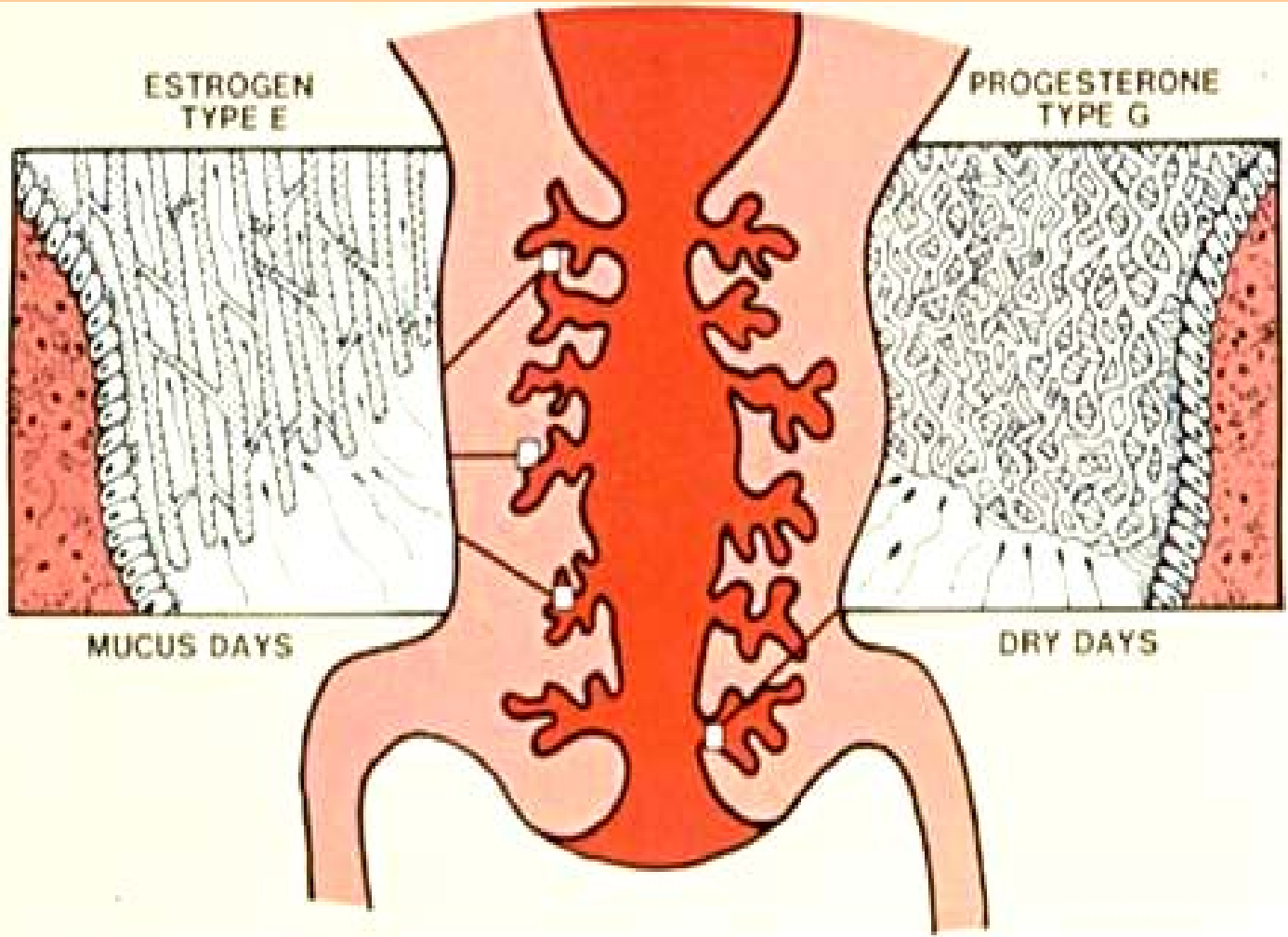


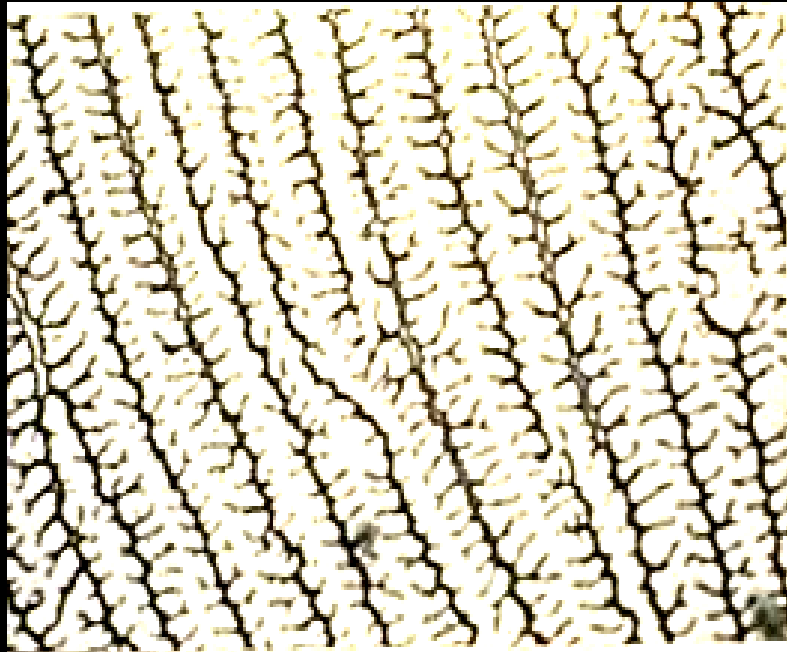


**Changes in the Lining of the Uterus**

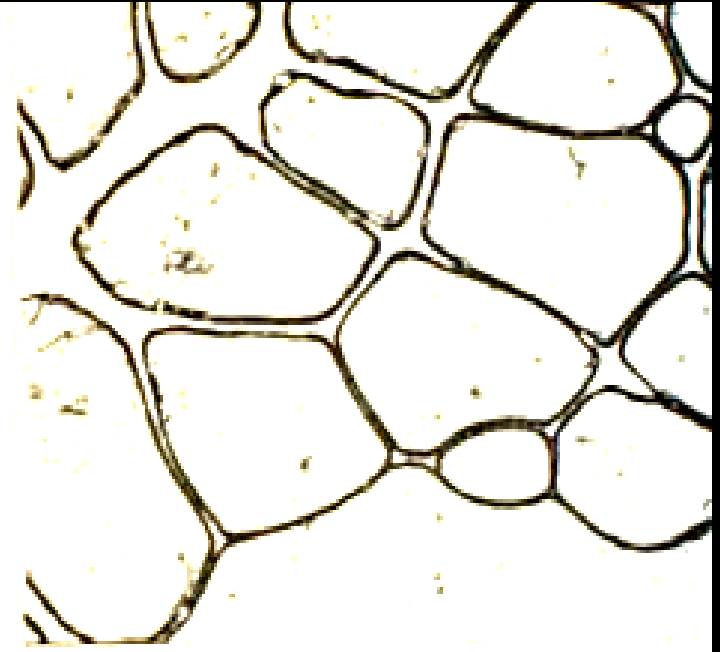


**Ovarian Hormones**





**TYPE E**



**TYPE G**

# Vaginal Discharge Recording System<sup>SM</sup> (VDRS)

**H** = Heavy Flow

**M** = Moderate Flow

**L** = Light Flow

**VL** = Very Light Flow (spotting)

**B** = Brown (or black) Bleeding

Always record the presence or absence of mucus during the light and very light days of the menstrual flow.

**0** = Dry

**2** = Damp **without** Lubrication

**2W** = Wet **without** Lubrication

**4** = Shiny **without** Lubrication

**6** = Sticky (¼ inch)

**8** = Tacky (½ - ¾ inch)

**10** = Stretchy (1 inch or more)

**10DL** = Damp **with** Lubrication

**10SL** = Shiny **with** Lubrication

**10WL** = Wet **with** Lubrication

**B** = Brown (or Black) Bleeding

**C** = Cloudy (White)

**C/K** = Cloudy/Clear

**G** = Gummy (Gluey)

**K** = Clear

**L** = Lubricative

**P** = Pasty (Creamy)

**Y** = Yellow (even pale yellow)

In addition, record how often during the day that you see the most fertile sign of the day in the following fashion:

**X1** = Seen only once that day

**X2** = Seen twice that day

**X3** = Seen three times that day

**AD** = Seen All Day

Figure 7-11: The vaginal discharge recording system (VDRS)



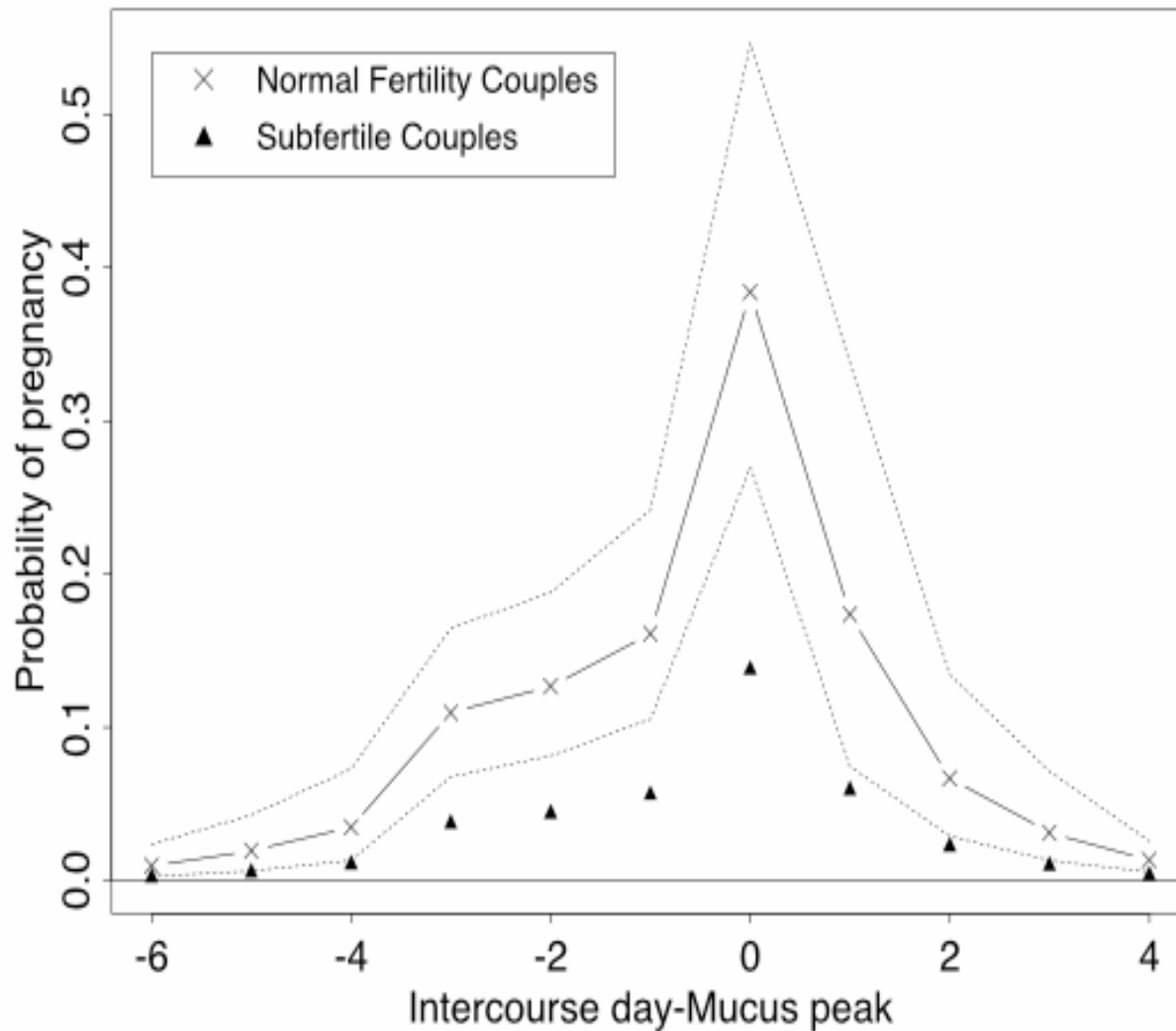
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H	M	M	L	VL	OAD	OAD	6C X1	6C X2	OAD	OAD	OAD	8C X1	OAD	6C X1	8C X2	8C AD	10C X2	10KL AD	10KL AD	8C X1	4X1	OAD	OAD	OAD	OAD	OAD	OAD	OAD	OAD	OAD	OAD	OAD	OAD	OAD	OAD			
M	H	M	L	2X2	4X1	2AD	OAD	6C X1	6C X1	8C X1	OAD	2X2	4X1	4X1	OAD	8C X2	10K AD	10KL AD	10WL X2	OAD	OAD	OAD	OAD	OAD	OAD	OAD	OAD	2X2	OAD	OAD	OAD	OAD	OAD	OAD	OAD			
L	M	H	L	8C X2	10C X1	10K X2	10KL AD	10C X1	6C X1	8C X2	OAD	OAD	OAD	OAD	OAD	4X2	4X1	4AD	4AD	2X1	OAD	OAD																
L	H	M	L	OAD	OAD	10C X1	OAD	OAD	OAD	OAD	OAD	OAD	OAD	8C X1	8K X2	10KL X2	10C X1	2X2	4X1	OAD	OAD	OAD	OAD	OAD	OAD	OAD	OAD	OAD										
M	H	H	M	L	OAD	OAD	4X1	OAD	OAD	6C X1	8K X2	6C X1	OAD	OAD	OAD	OAD	VL	10K X2	VL	OAD	OAD	OAD	2X1	OAD	OAD	4X2	4X1	2AD	OAD	OAD	OAD	OAD	OAD	OAD	OAD	OAD		

## Basic Method Instructions

Creighton Model NaPro Tracking is optimal for timing intercourse to achieve pregnancy.

AND it provides information to guide diagnostics and guide therapy....

# Probability of Clinical Pregnancy



1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35			
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M	M	M	M	L	VL																																
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H	M	L	VL	VL	VL	VL	VL	VL	VL	VL	VL	VL	VL																								
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INFERTILITY

MISCARRIAGE

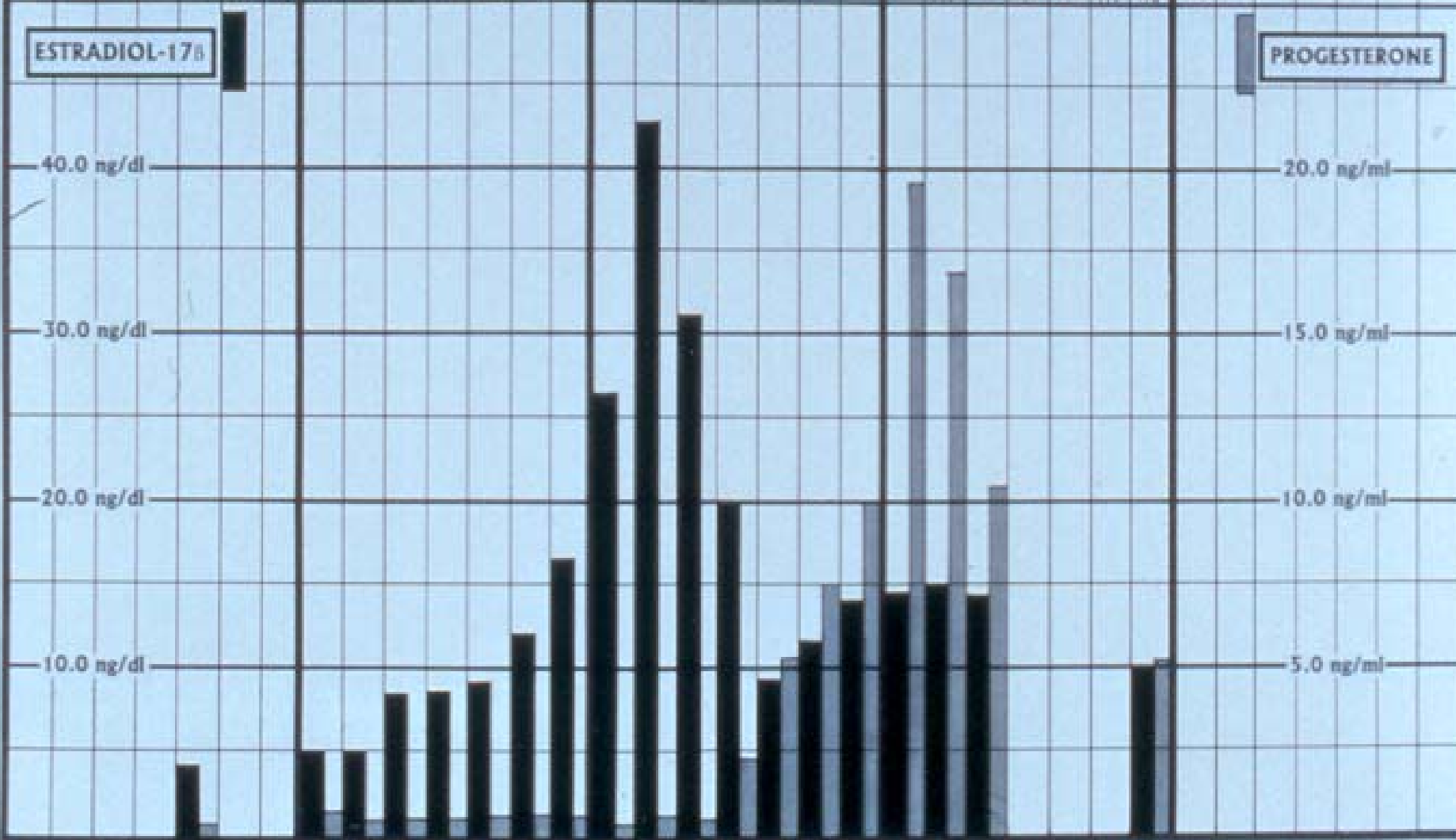
LOW  
PROGESTERONE

ABNORMAL  
BLEEDING

NAPROTRACKING® FOR A WOMAN'S HEALTH



1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35		
Red	Red	Red	Red	Red	Red	Red	Red	Green	Green	Green	Green	Green	Light Green	Light Green	Light Green	Light Green	Light Green	Light Green	Light Green	Light Green	Light Green	Light Green	Light Green	Light Green	Light Green	Light Green	Light Green	Light Green	Light Green	Light Green	Light Green	Light Green	Light Green	Light Green	Light Green	Light Green
L	H	M	L	L	VL	VL	VL	I				I	II	III	III	III	III	III	III	III	III	III	III	III	III	III	III	III	III	III	III	III	III	III	III	
			AD	AD	AD	AD	AD	AD	AD	AD	AD	AD	AD	AD	AD	AD	AD	AD	AD	AD	AD	AD	AD	AD	AD	AD	AD	AD	AD	AD	AD	AD	AD	AD	AD	AD



USE THESE SIGNS: P - PEAK • L, H, M - FERTILE DAYS FOLLOWING PEAK • I - INTERCOURSE

# NPT Infertility Protocol

- Initial Medical Consultation
  - NaProTracking for 2 cycles
  - Blood Tests & Seminal fluid analysis
- Medical Review/Tx - 3rd or 4th cycle
  - Ultrasound Evaluation
  - Ultrasound Follicle Tracking
- Consider Diagnostic Laparoscopy and Hysteroscopy - 6th cycle
- 12 effective cycles of medical treatment

# Diagnosis

## FUNCTIONAL

- Hormone deficiency - Follicular or Luteal?
- Ovulatory defect - Anovulation, Luteinised Unruptured Follicle Syndrome, Partial follicular rupture.
- Limited Cervical Mucus Flow
- Male Factor

Infertility diagnostic category	Prior diagnosis as % of total conceptions (N=382)	NPT diagnosis as % of total conceptions (N=382)*	(p-value)
Unexplained	45%	1%	<0.0001
Endometriosis	10%	11%	0.7249
Low luteal progesterone	14%	74%	<0.0001
Low luteal estrogen	1%	64%	<0.0001
Not ovulating	4%	3%	0.4343
Limited/hostile mucus	1%	24%	<0.0001
Poor semen	4%	3%	0.7059
Blocked fallopian tubes	2%	1%	0.7727
Pelvic adhesions	1%	1%	0.4510
Polycystic Ovarian Syndrome	9%	12%	0.3469
Fibroids	2%	1%	1.0000

\* Some patients received more than one diagnosis. Note this table is based on conceptions (n=382) rather than live births (N=266)

# Treatment

## FUNCTIONAL

- Luteal Phase Support - HCG, Progesterone
- Mucus Enhancers - Vitamin B6, Mucolytics, Antibiotics
- Stress Management
- Male Treatment
- Ovulation Induction - Clomiphene, HCG, FSH, GnRH

AIM is to restore normal function over 12  
*effective cycles*

# Effective Cycles

- **Good Hormones (P+7 Prog. & E2)**
- **Good Mucus**
- **Frequent Intercourse**
- **Stress Management**
  
- **And**
  - **Normal Bleeding Pattern**
  - **Proven follicular rupture by ultrasound**
  - **Proven normal Laparoscopy and Hysteroscopy**
  - **Optimal Seminal fluid analysis**

# Illustrative Case History

- Mr & Mrs. M
- No natural conceptions
- Birth of daughter 1999 via ICSI
- 2 ICSI unsuccessful subsequent attempts 2003
- Told would be impossible to conceive naturally

# Illustrative Case History

- SFA 90% abnormal morph and counts ranging from 0.6, 2, 5, and 7 million.
- Polycystic ovarian syndrome cycles 32-40 days in length



# Female Treatment

- Clomid initially 50 mg day 3-7, increased to 100 mg and then for 7 days. Dose modified to achieve effective Peak + 7 levels
- Mucus enhancers added
- Progesterone added in luteal phase

# Male Treatment

- Indomethacin and Nexium
- Co-Enzyme Q 10
- SFA 12 million 60% normal morphology

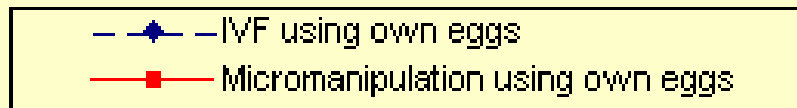
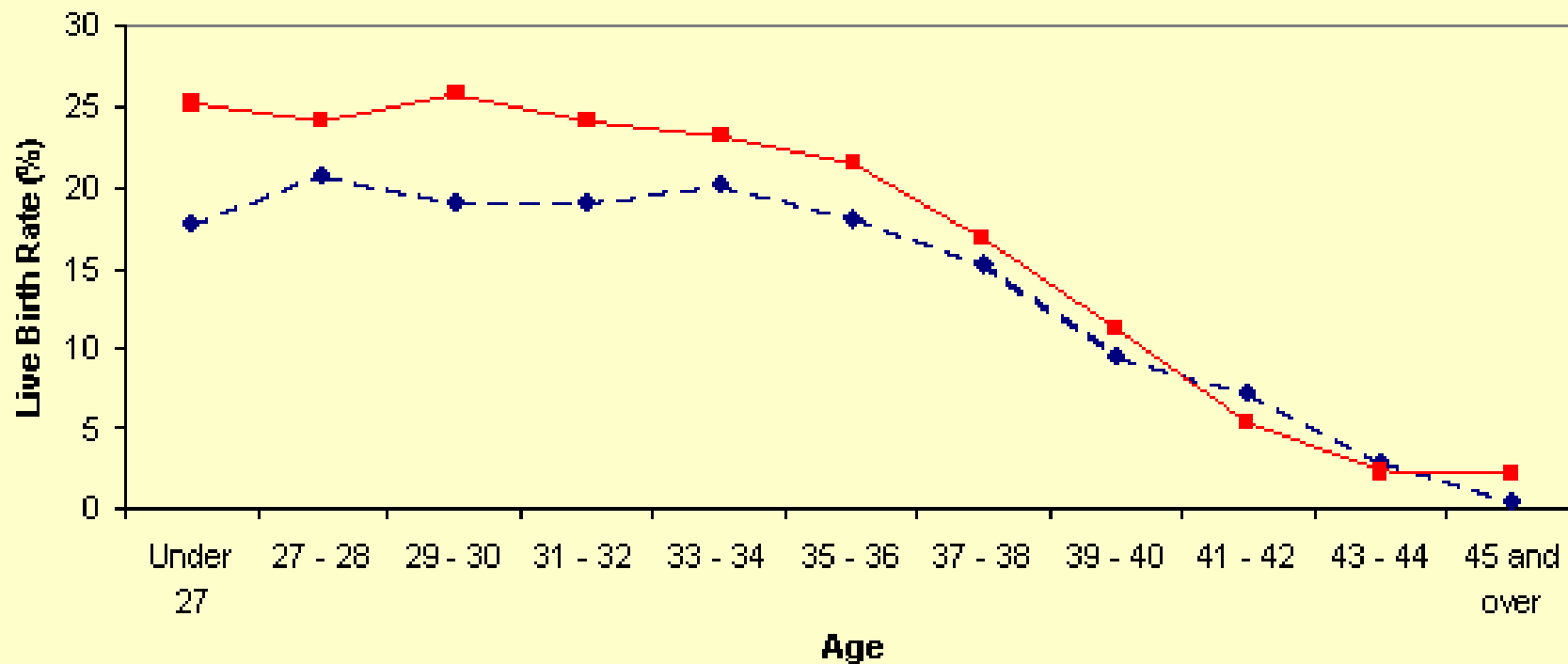
Just luck!?!

Maybe not...

# **123 Conceptions from 95 couples with previously failed IVF**

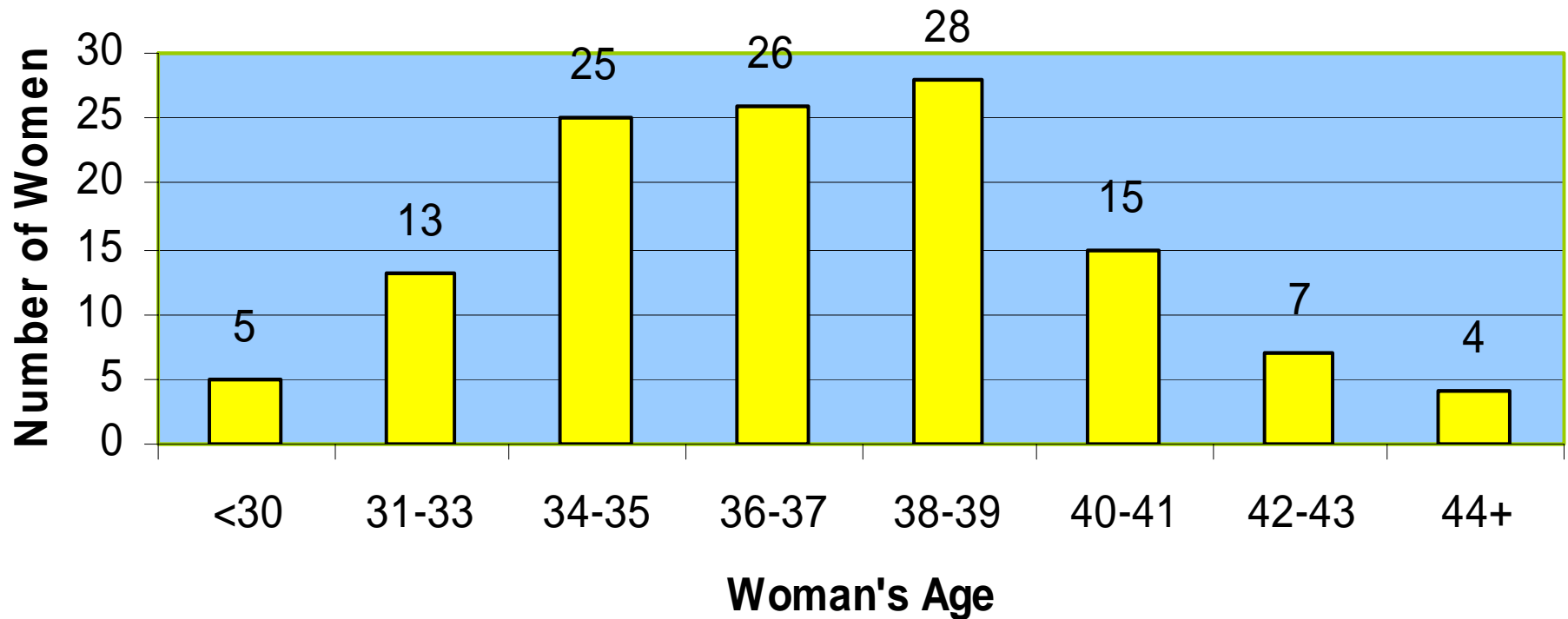
Dr. Phil Boyle  
MICGP MRCGP CNFPMC

# IVF - UK. Declining success with increased age



# Women's Age at conception

123 conceptions from 95 couples  
Previous Failed ART

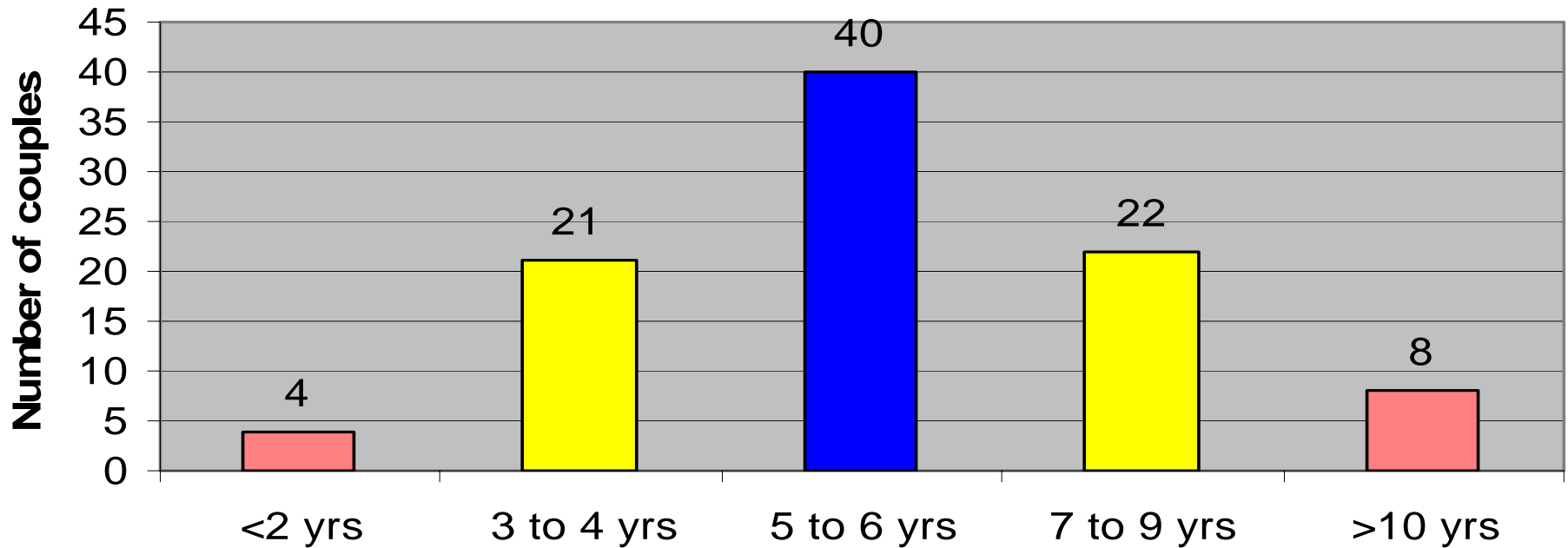


Average 36.8 Years

44% Aged 38 Years or older

# 95 Couples - Previous Failed ART

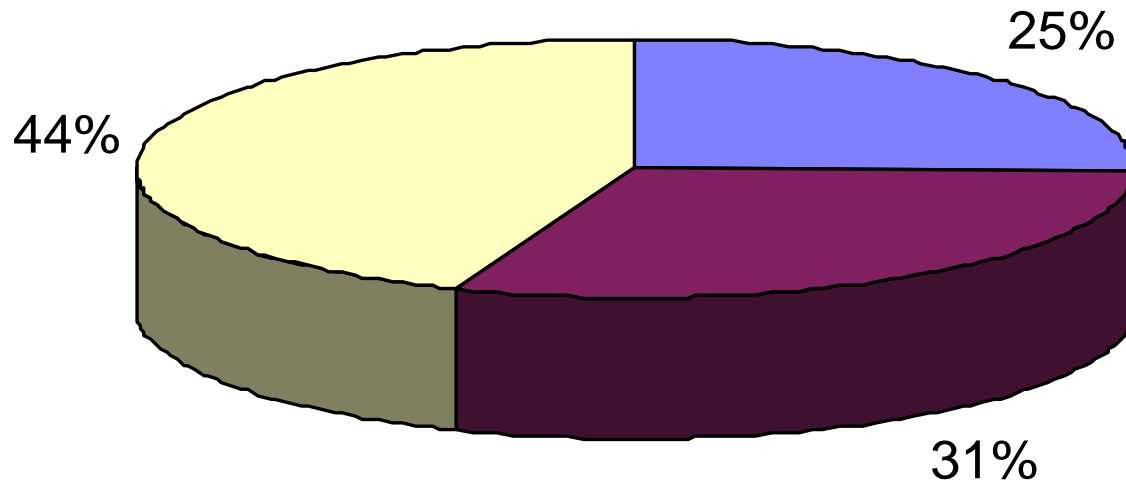
**Years Trying to conceive 95 couples  
Previous Failed IVF**



**Average 6 Years**

# 95 Couples - Previous Failed ART

## Previous Pregnancies



- Previous full term delivery
- Conceived but always miscarried
- Never conceived naturally before

**75% never delivered previously**



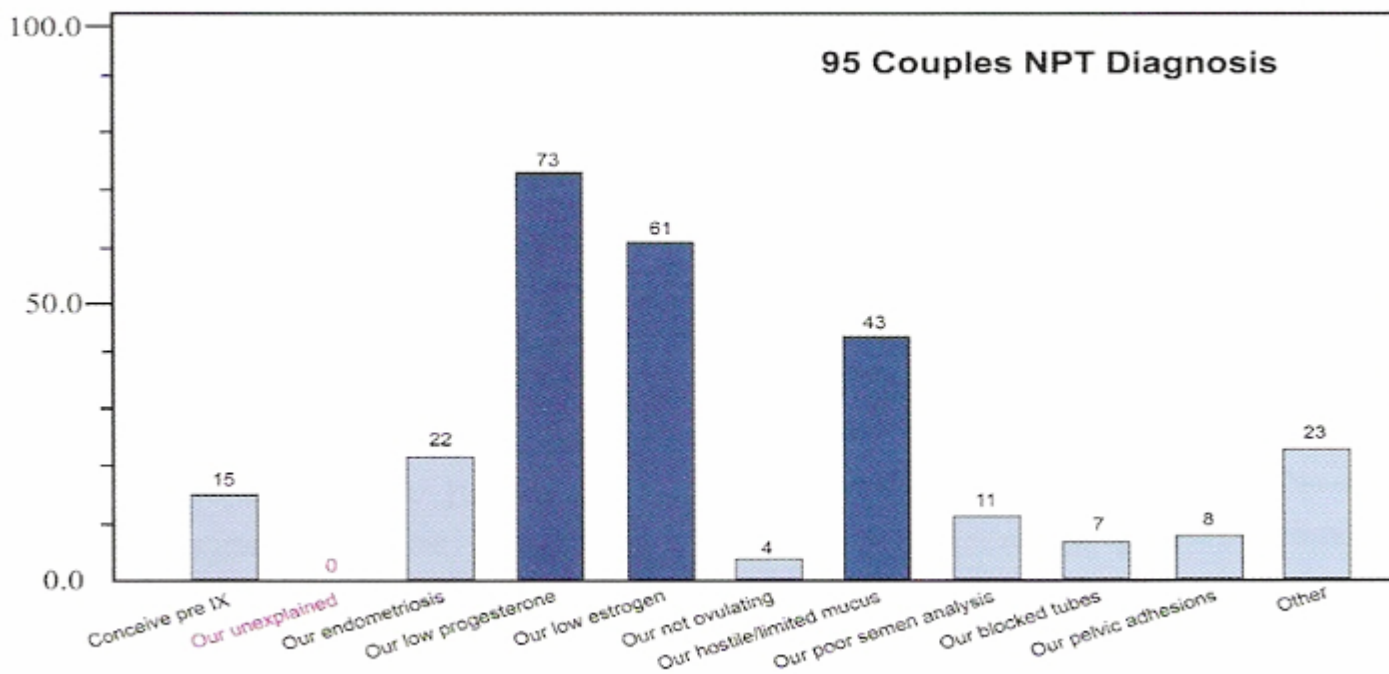
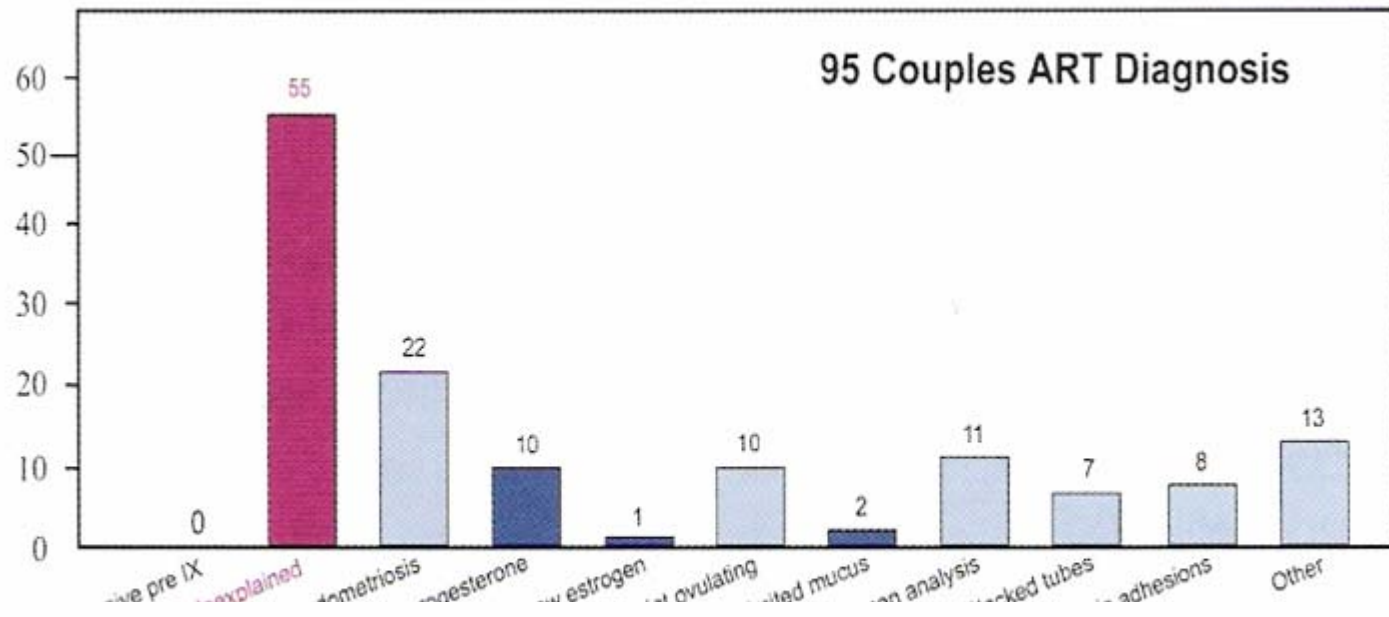
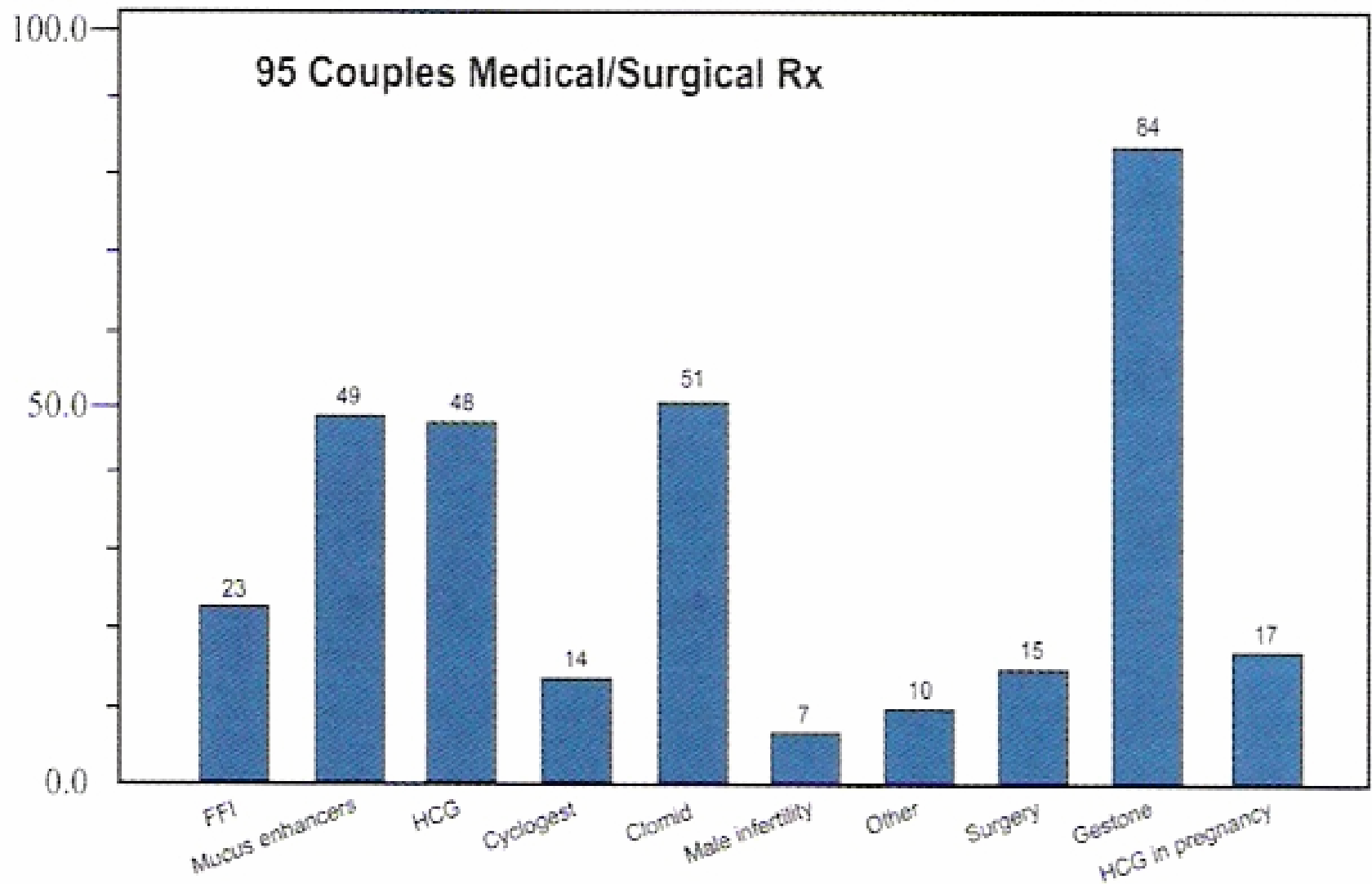


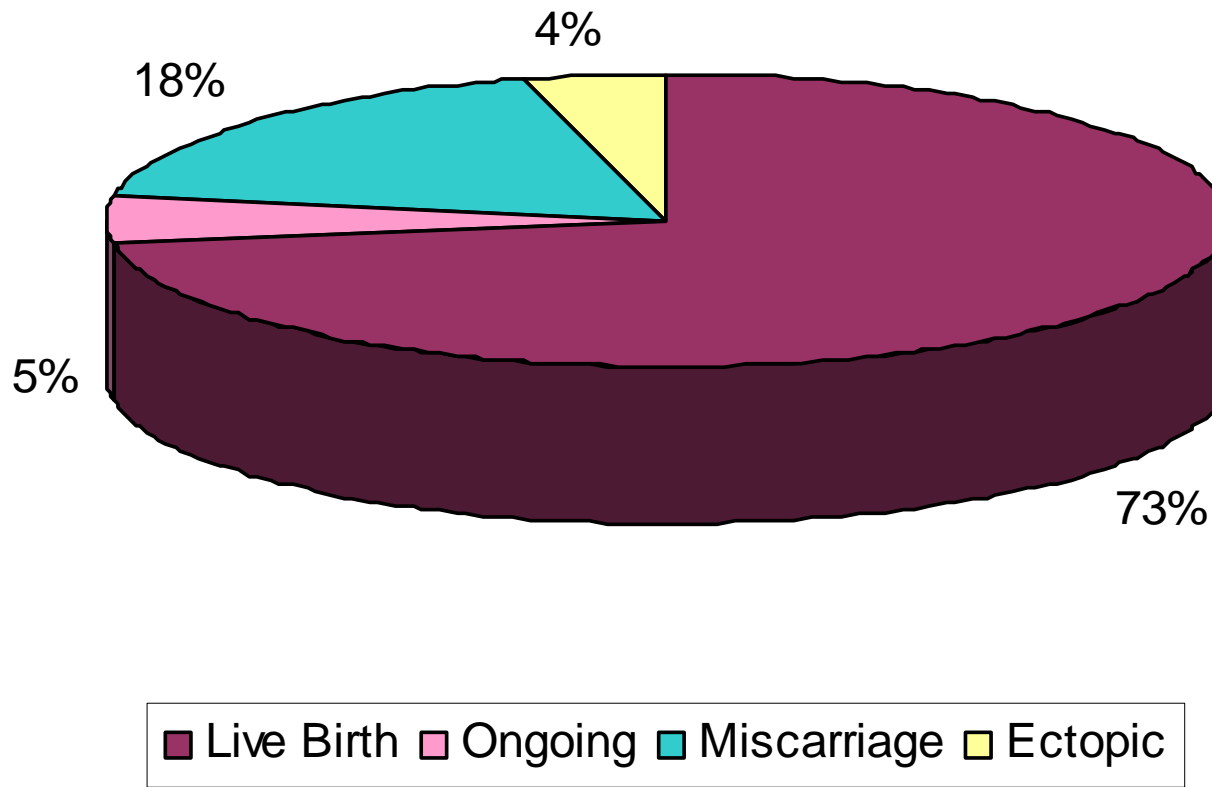
Figure 50-2: Infertility diagnosis after being evaluated by NPT.



**Figure 50-4:** Summary of medical and surgical treatment couples received after failed ART.

# 95 Couples - Previous Failed IVF

Final Pregnancy Outcome from 95 couples



**78% successful Pregnancies per couple**

# Who does it work for?

- All ages, as long as not menopausal
- Previously tried treatment, including IVF/ART
- All functional abnormalities, except azoospermia
- Most structural abnormalities, except non-NPT surgically corrected tubal obstruction

How good is it??

# Irish NaProTechnology Results

- **Crude live birth rate 25.5**
- **Lifetable live birth rate 46.3**
  - **Lifetable is at 24 months, which corresponds in most cases to 12 effective cycles.**

# Irish NaProTechnology Results

<b>■ No prior IVF</b>	<b>Crude</b>	<b>LT</b>
• Age $\leq$ 37 yrs	32.0	53.6
• Age $\geq$ 38 yrs	20.3	43.8
<b>■ Prior failed IVF</b>		
• Age $\leq$ 37 yrs	21.6	38.8
• Age $\geq$ 38 yrs	15.1	25.3

# Neonatal morbidity

- Preterm birth rate <6%
- Low birth rate <8%
- Twins 4.1 % Rate, compared with 28% IVF
- Less prematurity, low birth weight, morbidity, mortality and cost for NPT Births



# Conclusion

- NPT appears to be a safe effective approach to infertility
  - Less technical resources required
  - NPT does require additional training
  - Possible to integrate into comprehensive reproductive health program
- International multi-practice studies are in planning to confirm

