Menorrhagia Management

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Obstetrician and Gynaecologist

Public: Tauranga Hospital

Private: Suite 7 ProMed House

Usual causes of abnormal genital bleeding by age group

Premenarchal

Foreign body

Trauma, including sexual abuse

Infection

Urethral prolapse

Ovarian tumor

Precocious puberty

Early postmenarche

Anovulation (hypothalamic immaturity)

Bleeding diathesis

Stress (psychogenic, exercise induced)

Pregnancy

Infection

Reproductive years

Anovulation

Pregnancy

Cancer

Polyps, fibroids, adenomyosis

Infection

Endocrine dysfunction (PCOS, thyroid, pituitary adenoma)

Bleeding diathesis

Medication related (eg, contraceptive agents)

Perimenopausal

Anovulation

Polyps, fibroids, adenomyosis

Cancer

Menopause

Atrophy

Cancer

Estrogen replacement therapy

Adapted from APGO educational series on women's health issues. Clinical management of abnormal uterine bleeding. Association of Professors of Gynecology and Obstetrics, May 2002.

TABLE 1. Common differential diagnoses for menorrhagia

Diagnosis	Most common age group	Clinical hallmarks	Laboratory determinations
Bleeding disorders	Adolescents	History of easy bruising or bleeding	• Complete blood count with platelets • Prothrombin time, partial prothrombin time, bleeding time • von Willebrand factor
Uterine abnormalities (fibroids, polyps)	>40 years	Pelvic mass on bimanual exam or ultrasound	Pelvic ultrasonography; sonohysterography
Perimenopause	>40 years	Vasomotor and mood changes	• Serum follicle-stimulating hormone (if indicated) • Endometrial biopsy to rule out carcinoma
Thyroid disorders	>50 years	• Weight and appetite changes • Heat and cold intolerance	Thyroid-stimulating hormone
Pregnancy and pregnancy loss	Sexually active, childbearing years	Sudden onset	Urine human chorionic gonadotropin
Cervical infection or trauma	All sexually active years, especially age <25	Abnormal discharge, dyspareunia, multiple sexual partners	• Gonorrhea and chlamydia cultures • Wet smear

Menorrhagia in general practice - disease or illness

majority of women who complain of heavy bleeding do not fit the medical definition

Women attached particular importance to
- how they felt
- to their ability to function
- they rejected the medical emphasis on blood loss evaluation.

Many women were dissatisfied with the consultation
- experienced doctors as being dismissive of their problem
- were seeking an explanation for why their periods had changed
- had concerns that related to their understanding of menstrual bleeding.

N. O'Flynn, N. Britten / Social Science & Medicine 50 (2000) 651±661

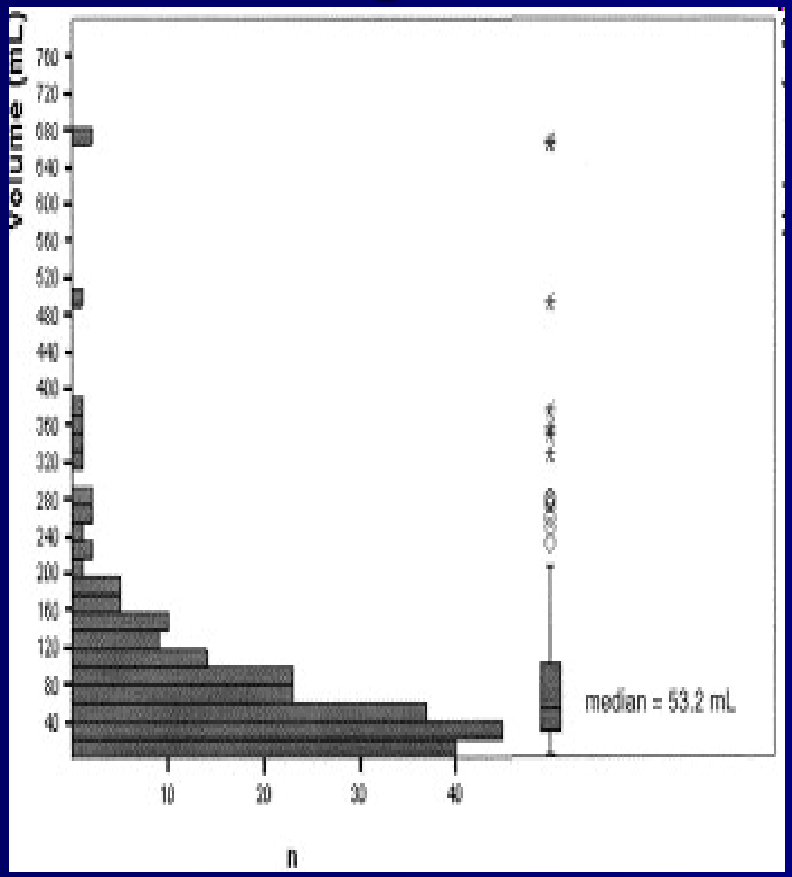
Measured blood loss, clinical features, and outcome in women with heavy periods

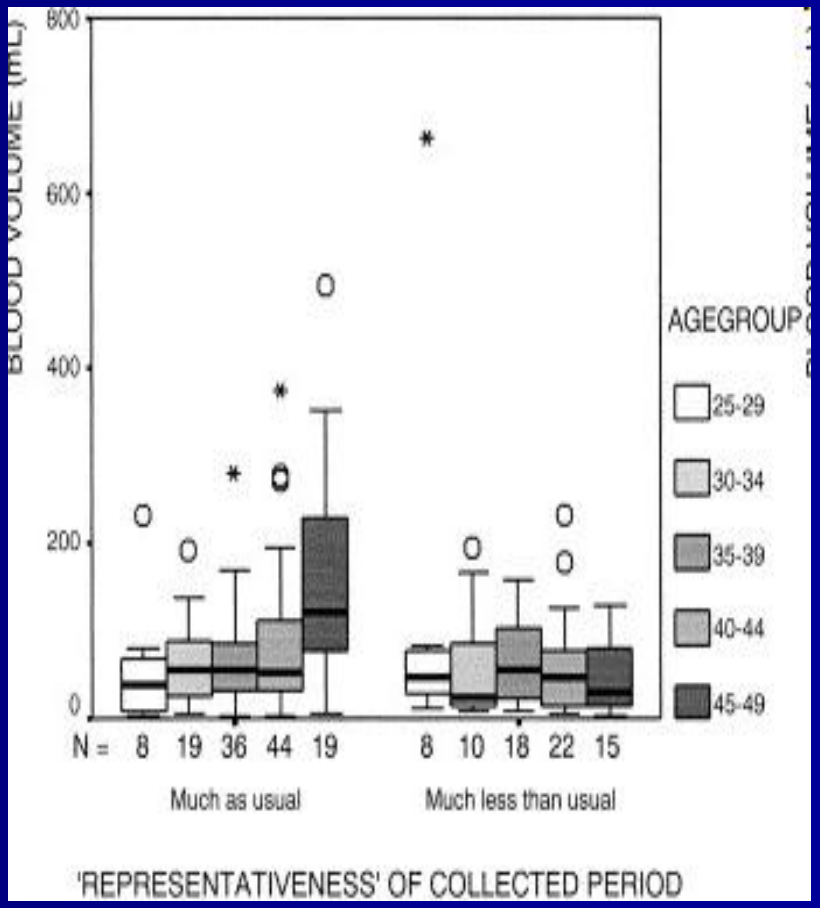
Pamela Warner, Hilary Critchley ea Edinburgh and Glasgow

American Journal of Obstetrics and Gynecology
Volume 190, Issue 5, May 2004, Pages 1216-1223

- 2 years (1996-98) of "menorrhagia" referrals to Edinburgh and Glasgow Royal Infirmaries, and at Glasgow Western Infirmary
- 1506 suitable referrals
- Potential 952 participants
- 226 women who collected their used sanitary protection (=26% of the 865 women who were eligible for collection)
- Measurement of loss requires the collection of used sanitary protection for 1 period
- case note review 8 months after the initial appointment

How feasible it is to judge menorrhagia from clinical history ?





Is it feasible to judge menorrhagia from clinical history ? – YES!

- The volume of blood loss is associated more closely than has been believed with subjective judgment of heaviness and is even more strongly associated with specific clinical features
- clinical features that are associated most strongly with blood loss volume
  - required rate of changing sanitary protection during full flow
  - total number of products used
  - poor iron status
  - size of clots
  - need to change protection during the night

Questions to ask to help quantify blood loss during menses

How often do you change your sanitary pad/tampon during peak flow days?

How many pads/tampons do you use over a single menstrual period?

Do you need to change the pad/tampon during the night?

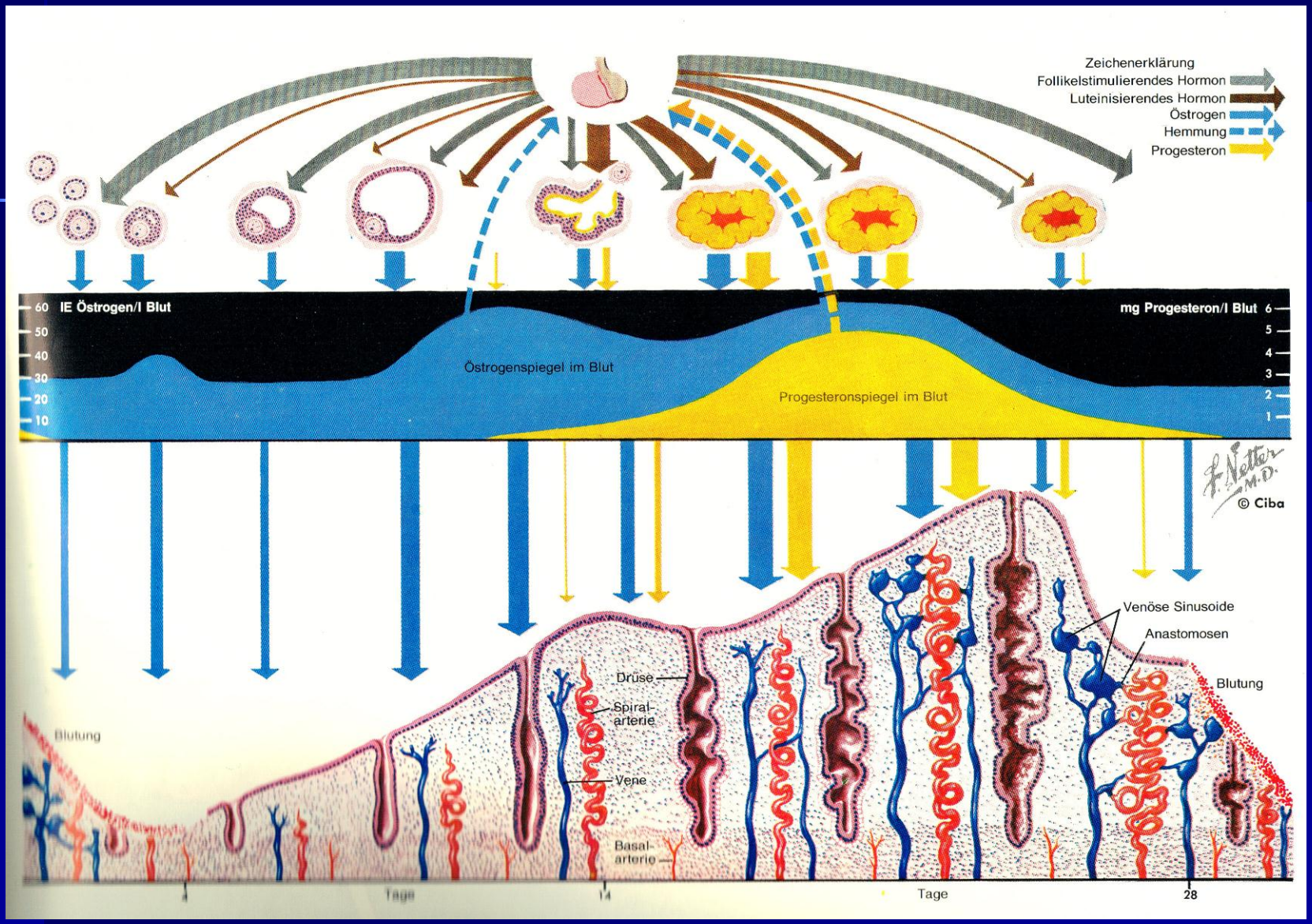
How large are any clots that are passed?

Has a medical provider told you that you are anemic?

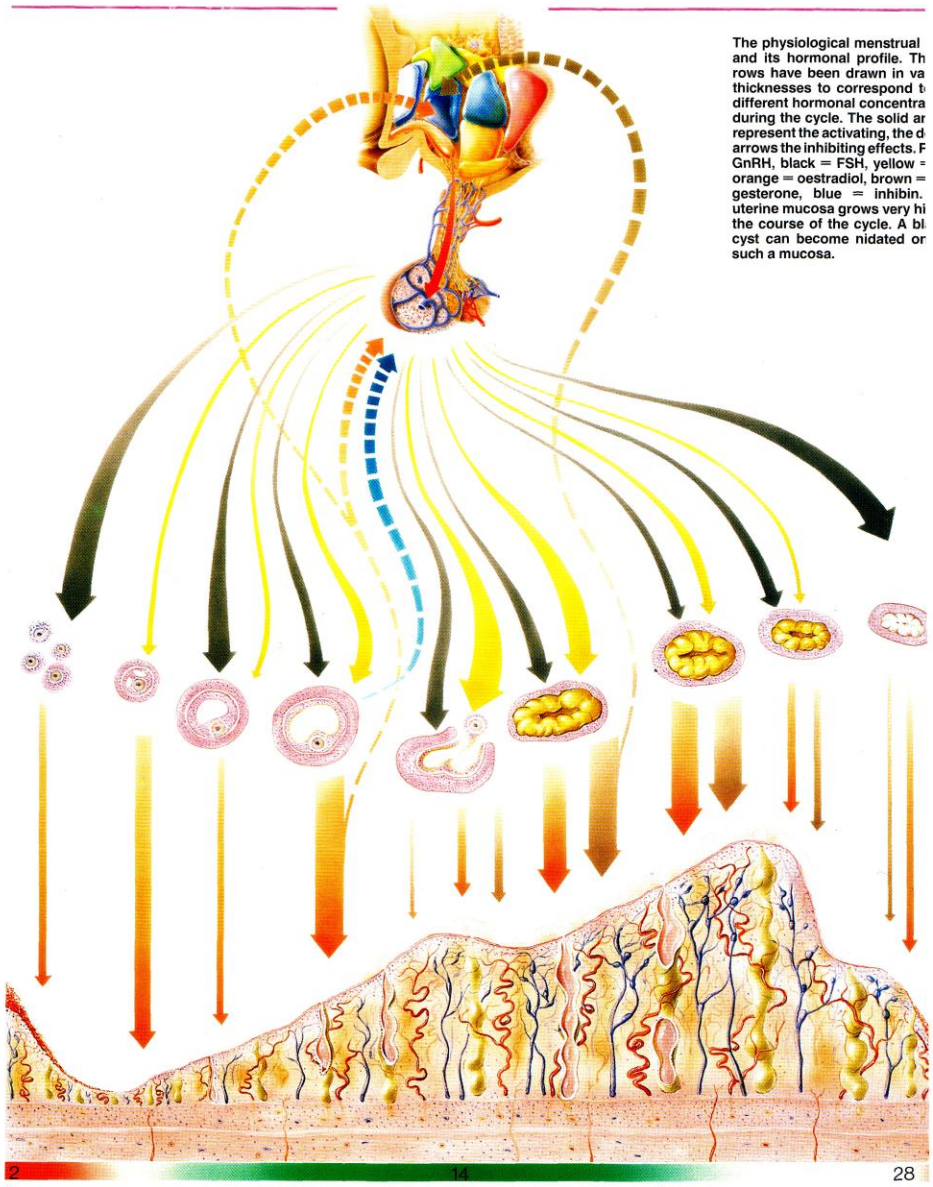
Women with a normal volume of menstrual blood loss tend to:

- *change pads/tampons at ≥3 hour intervals,*
- *use fewer than 21 pads/tampons per cycle,*
- *seldom need to change the pad/tampon during the night,*
- *have clots less than 1 inch in diameter,*
- *not be anemic*

Adapted from Warner, PE, Critchley, HD, Lumsden, MA, et al. Am J Obstet Gynecol 2004; 190:1216.

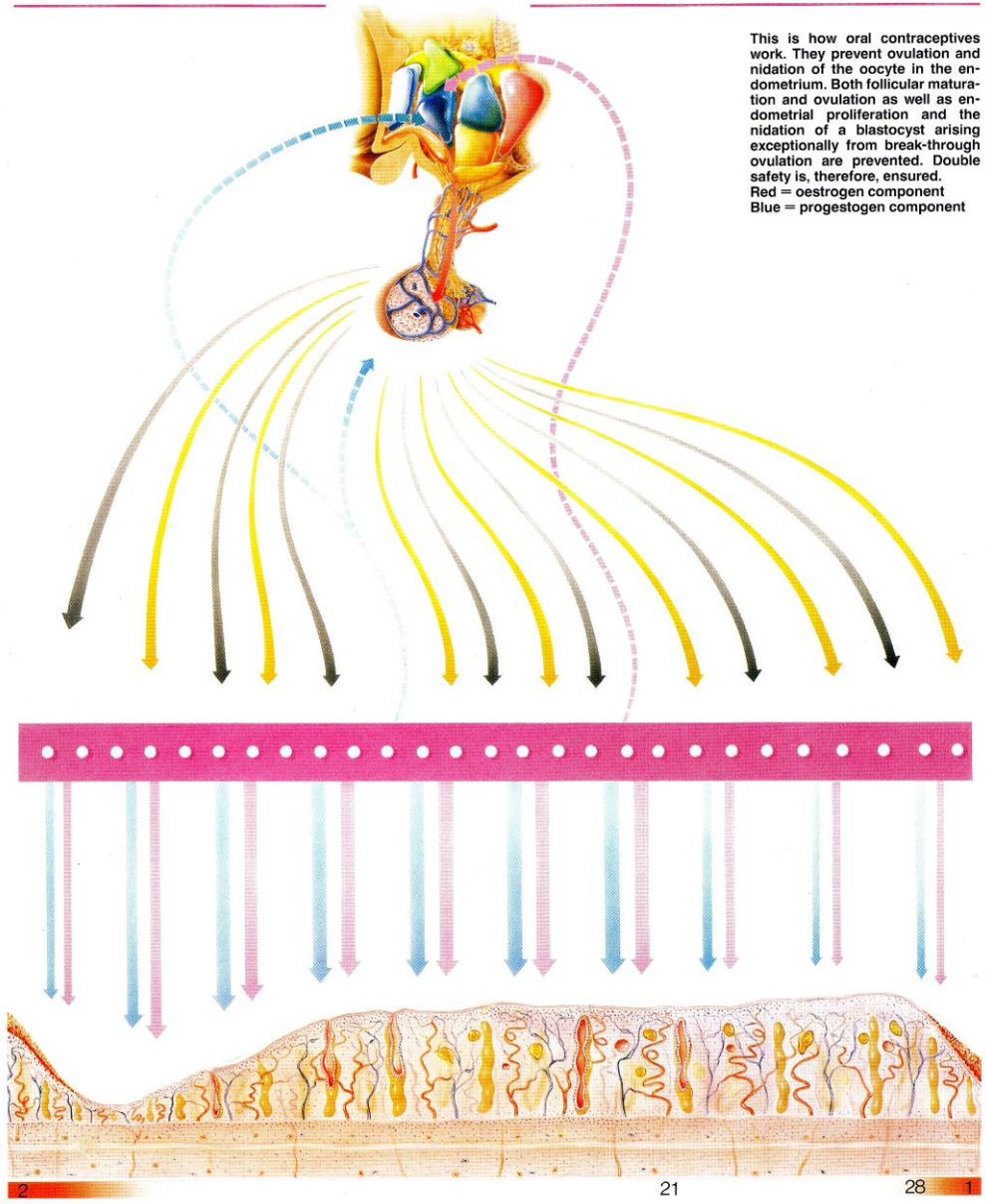

Zeichenerklärung
Follikelstimulierendes Hormon
Luteinisierendes Hormon
Östrogen
Hemmung
Progesteron
60 IE Östrogen/l Blut
50
40
30
20
10
mg Progesteron/l Blut 6
5
4
3
2
1
Östrogenspiegel im Blut
Progesteronspiegel im Blut
F. Netter M.D.
© Ciba
Venöse Sinusoide
Anastomosen
Blutung
Drüse
Spiral-arterie
Vene
Basal-arterie
Blutung
4
Tage
14
Tage
28

Representation of the physiological cycle

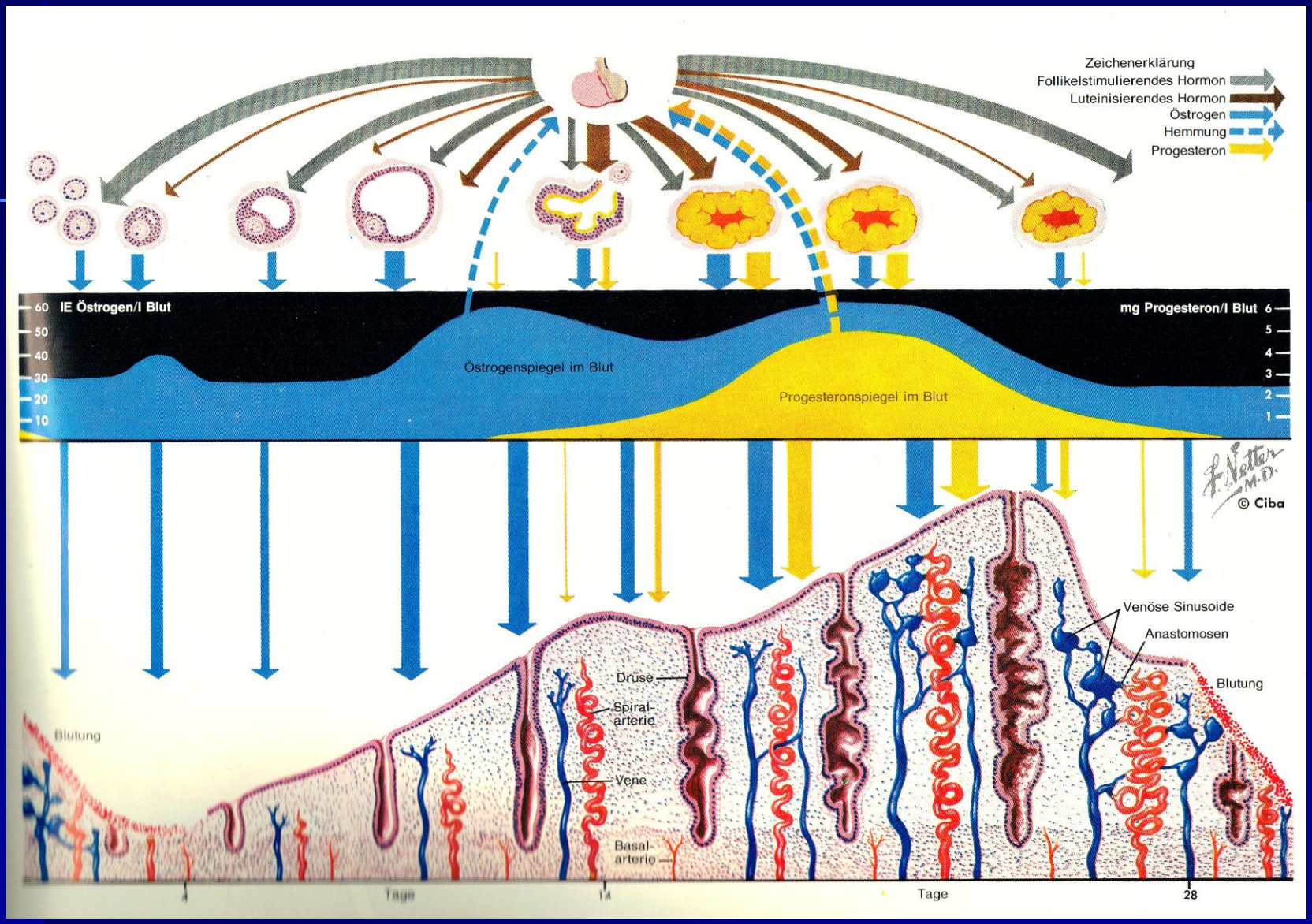


The physiological menstrual
and its hormonal profile. Th
rows have been drawn in va
thicknesses to correspond t
different hormonal concentra
during the cycle. The solid ar
represent the activating, the d
arrows the inhibiting effects. F
GnRH, black = FSH, yellow =
orange = oestradiol, brown =
gesterone, blue = inhibin.
uterine mucosa grows very hi
the course of the cycle. A bl
cyst can become nidated or
such a mucosa.

Cycle during oral contraception



This is how oral contraceptives work. They prevent ovulation and nidation of the oocyte in the endometrium. Both follicular maturation and ovulation as well as endometrial proliferation and the nidation of a blastocyst arising exceptionally from break-through ovulation are prevented. Double safety is, therefore, ensured.
Red = oestrogen component
Blue = progestogen component


Zeichenerklärung
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Östrogenspiegel im Blut
Progesteronspiegel im Blut
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Venöse Sinusoide
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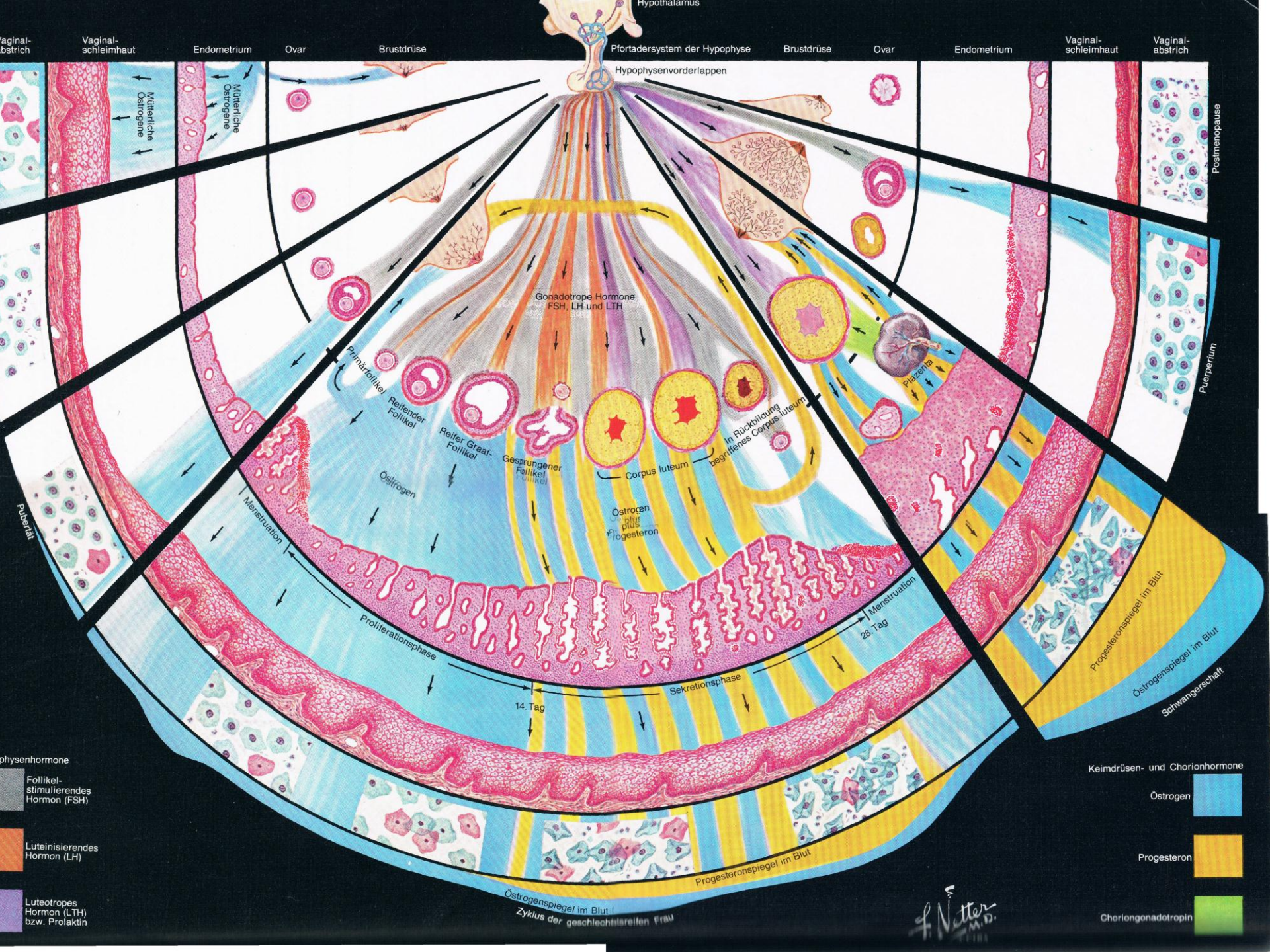

Hypothalamus
Pfortadersystem der Hypophyse
Hypophysenvorderlappen
Vaginal-abstrich
Vaginal-schleimhaut
Endometrium
Ovar
Brustdrüse
Brustdrüse
Ovar
Endometrium
Vaginal-schleimhaut
Vaginal-abstrich
Mütterliche Östrogene
Mütterliche Östrogene
Postmenopause
Puerperium
Gonadotrope Hormone FSH, LH und LTH
Primärfollikel
Reifender Follikel
Reifer Graaf-Follikel
Gesprungener Follikel
Corpus luteum
In Rückbildung begriffenes Corpus luteum
Plazenta
Östrogen
Östrogen plus Progesteron
Pubertät
Menstruation
Proliferationsphase
14. Tag
Sekretionsphase
28. Tag
Menstruation
Progesteronspiegel im Blut
Östrogenspiegel im Blut
Schwangerschaft
Progesteronspiegel im Blut
Östrogenspiegel im Blut
Zyklus der geschlechtsreifen Frau
physenhormone
Follikel-stimulierendes Hormon (FSH)
Luteinisierendes Hormon (LH)
Luteotropes Hormon (LTH) bzw. Prolaktin
Keimdrüsen- und Chorionhormone
Östrogen
Progesteron
Choriongonadotropin
F. Netter M.D.

Modalities of Therapies

Short term ↔ Long term

Hormonal ↔ Non-hormonal

Contraceptive ↔ Non-contraceptive

Low efficacy ↔ Highly reliable

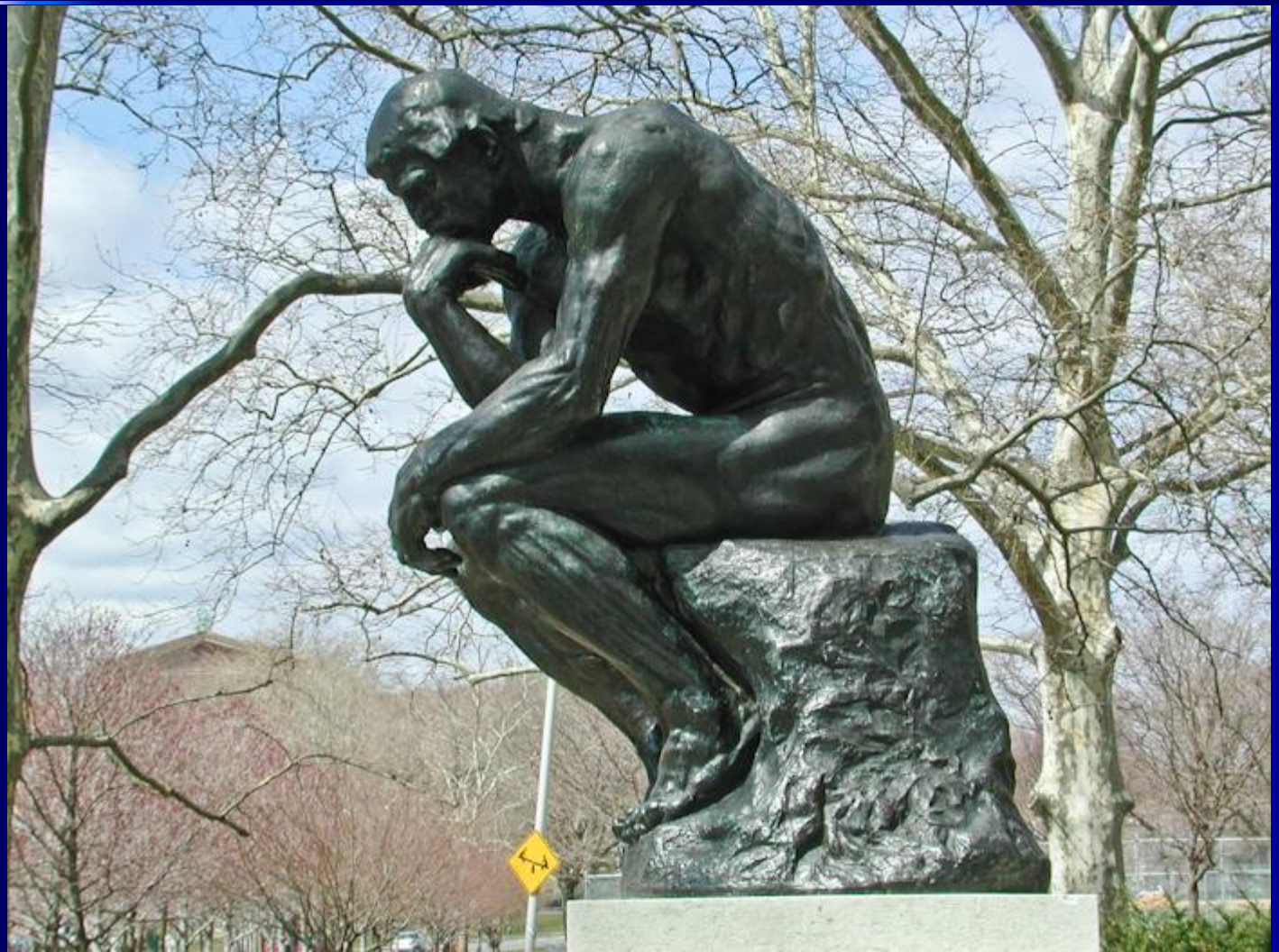
Reversible option ↔ Irreversible method

Easy opt-in/out ↔ Dr-exclusive opt-out

Medical ↔ Surgical

Organ preserving ↔ Hysterectomy

A “MUST”: check for recent smears, or take one



Let the patient achieve the right BALANCE


I AM TRYING TO ACHIEVE A WORK-LIFE BALANCE.
Hallatt
© Original Artist
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Cyklokapron

Lennart Nilsson and Goran Rybo (*Gothenburg, Sweden)* Acta **obst. et gynec. scandinav.** 44, **467, 1965**

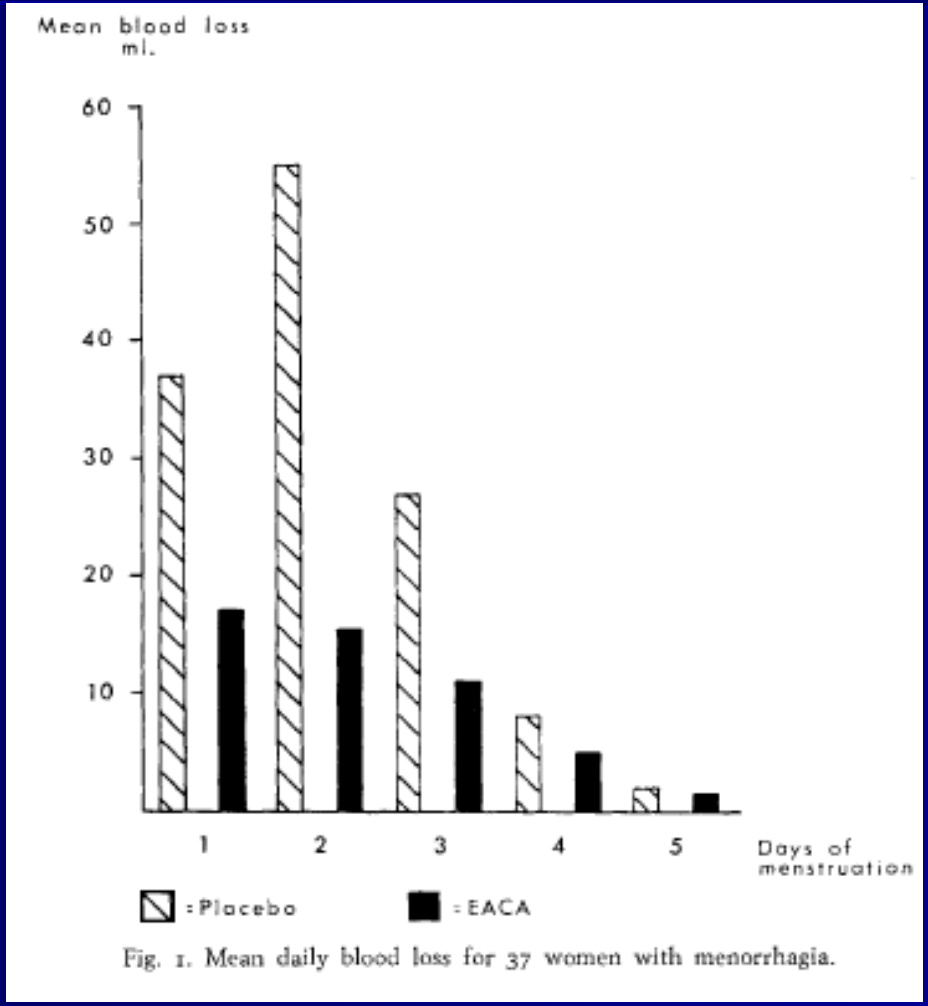
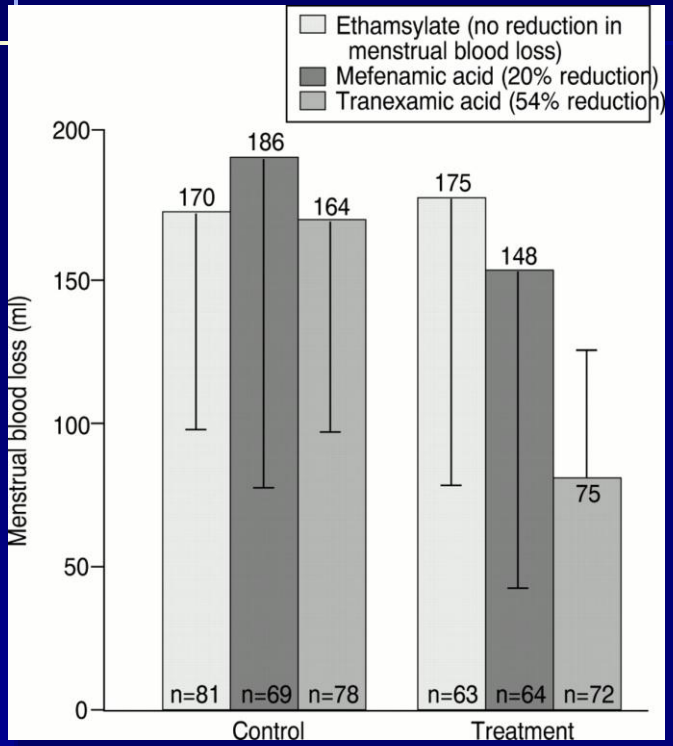


Fig. 1. Mean daily blood loss for 37 women with menorrhagia.

Mean menstrual blood loss of 27 patients during three pretreatment (control) cycles and three cycles during treatment with pretreatment cycles and three cycles during treatment with mefenamic acid, and 26 patients during three pretreatment cycles and three tranexamic acid.



- **Conclusions**: Tranexamic acid given during menstruation is a safe and highly effective treatment for excessive bleeding. Patients with dysfunctional uterine bleeding should be offered medical treatment with tranexamic acid before a decision is made about surgery.
- John Bonnar andBrian Sheppard, *Trinity College, St James' Hospital and the Coombe Women's Hospital, Dublin*

Bonnar J , Sheppard B L BMJ 1996;313:579-582

Tranexamic acid = lysine analogue, competitively

inhibits the binding of plasminogen to fibrin

- reduces bleeding by approximately 50%
- days 1 to 4 or 5 of menses
- dose of 4 g/day

- Mean blood loss (94 ml) was reduced (−110 ml)
- However no difference in the women's perception
  - blood loss
  - days of the menstrual blood loss (bleeding duration)
- [those dose dependent: not less than 4 g!]

Tranexamic Acid

Generally well-tolerated
- Nausea
- Vomiting
- Diarrhea
- disturbances in color vision have been reported

Non hormonal

Readily available

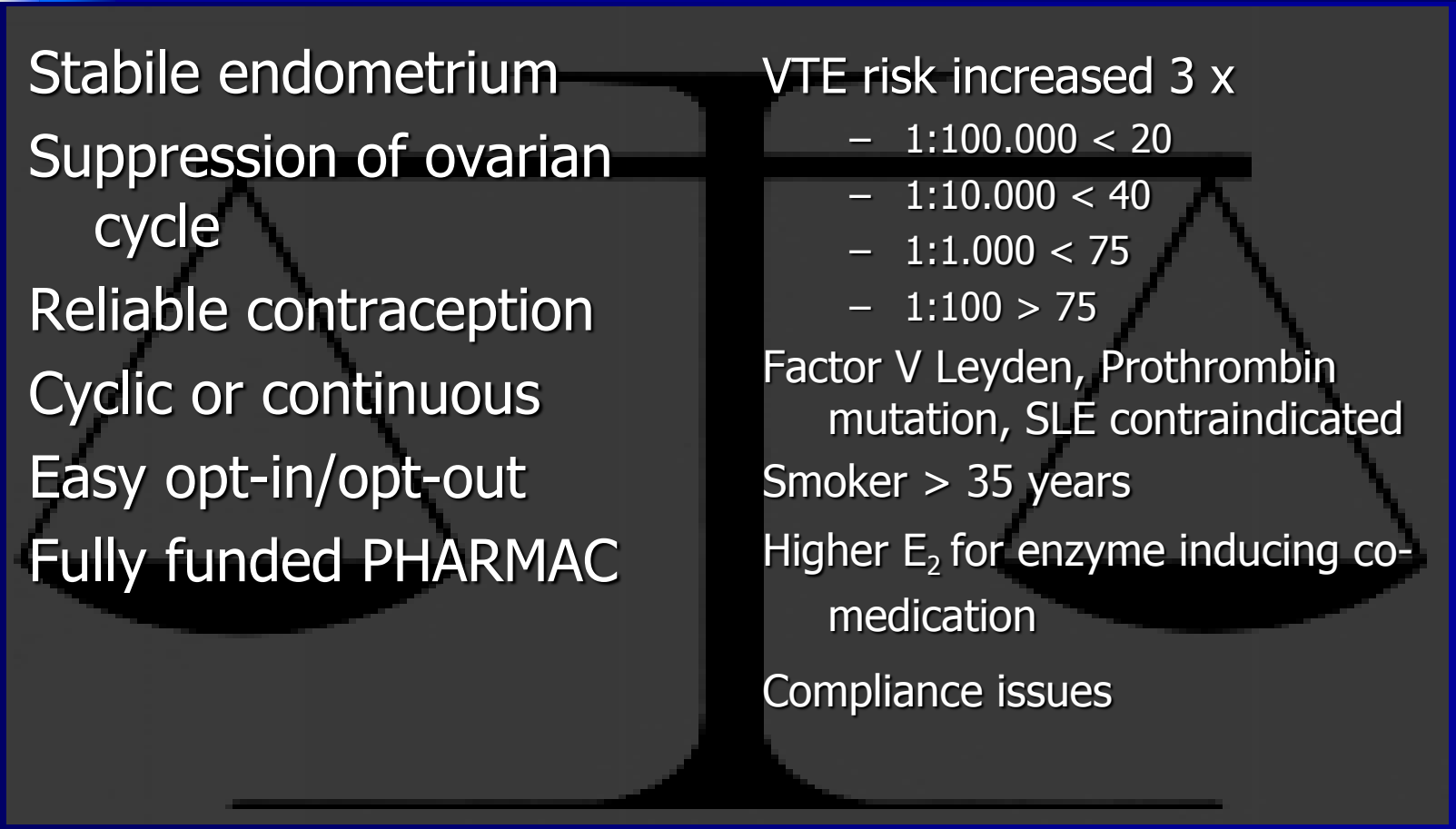
Easy opt-in/opt-out

Extent of the thrombotic risk remains somewhat uncertain
- increased risk of VTE
- infarct type necrosis and thrombosis of leiomyoma x 3

Women with a hx of thrombosis should avoid antifibrinolytic agents

Short-lived effect, qid dosage

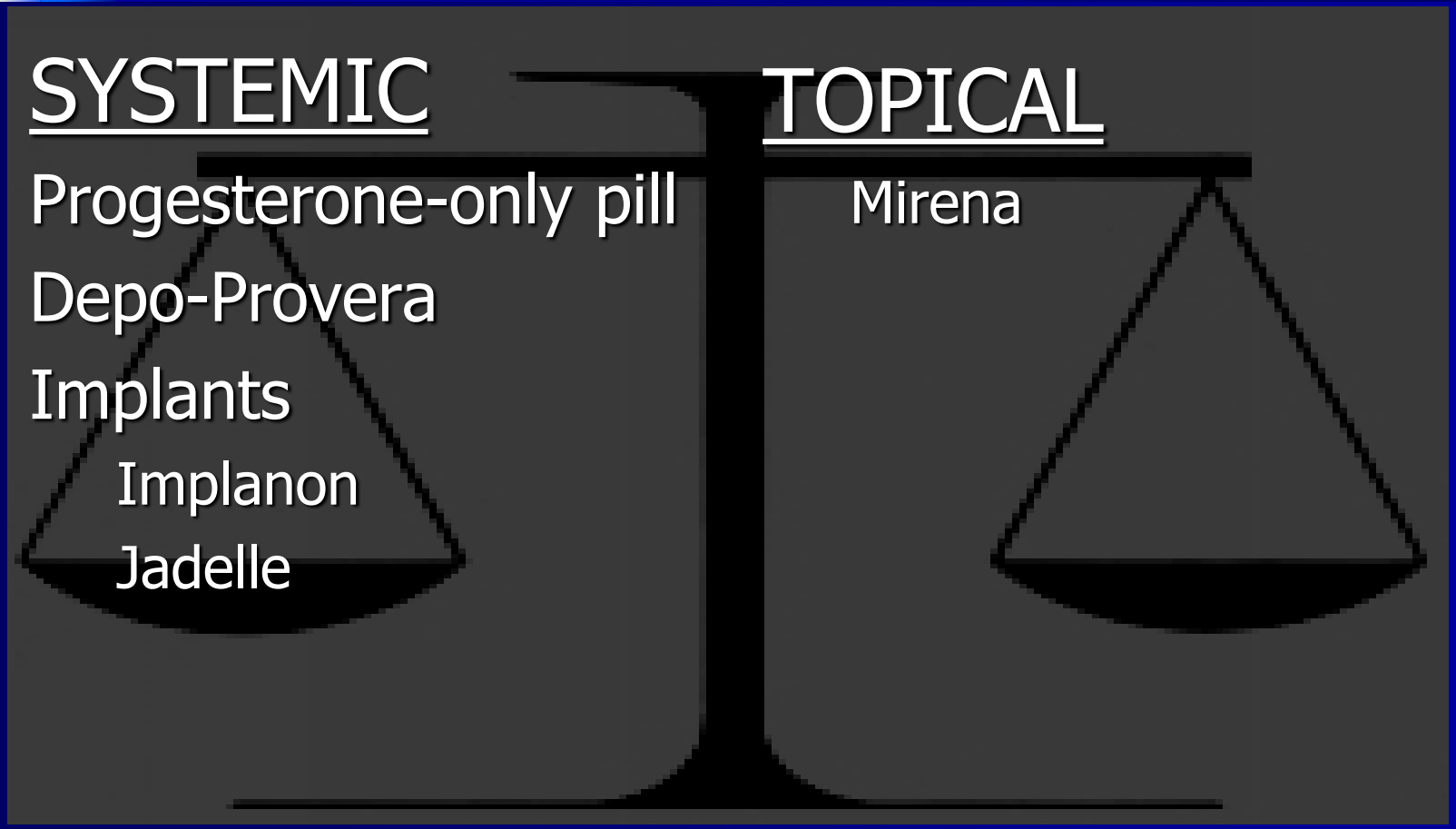
Oestrogen based pills



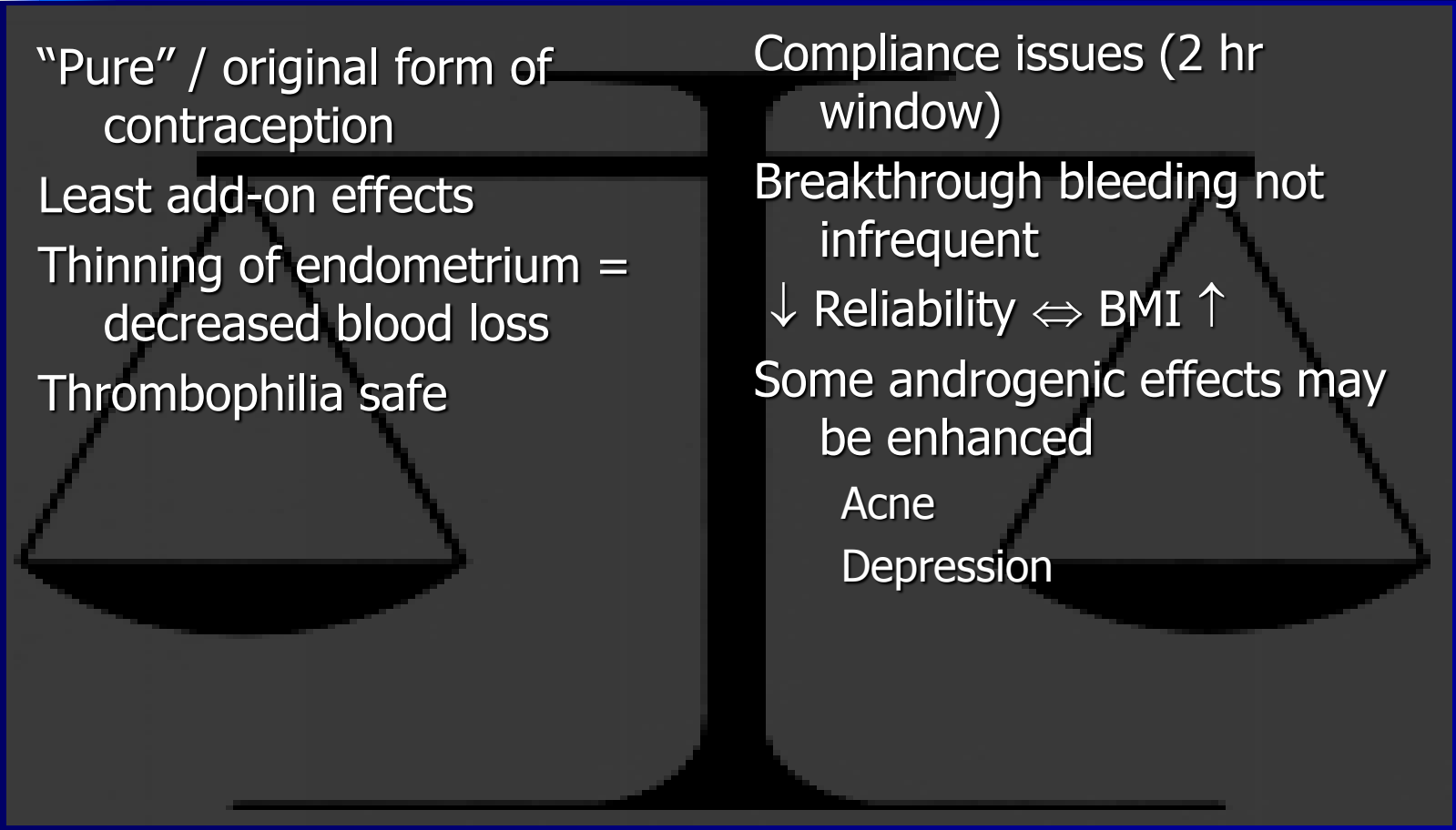
- Stabile endometrium
- Suppression of ovarian cycle
- Reliable contraception
- Cyclic or continuous
- Easy opt-in/opt-out
- Fully funded PHARMAC

- VTE risk increased 3 x
  - 1:100.000 < 20
  - 1:10.000 < 40
  - 1:1.000 < 75
  - 1:100 > 75
- Factor V Leyden, Prothrombin mutation, SLE contraindicated
- Smoker > 35 years
- Higher E_2 for enzyme inducing co-medication
- Compliance issues

Progestins


SYSTEMIC
Progesterone-only pill
Depo-Provera
Implants
Implanon
Jadelle
TOPICAL
Mirena

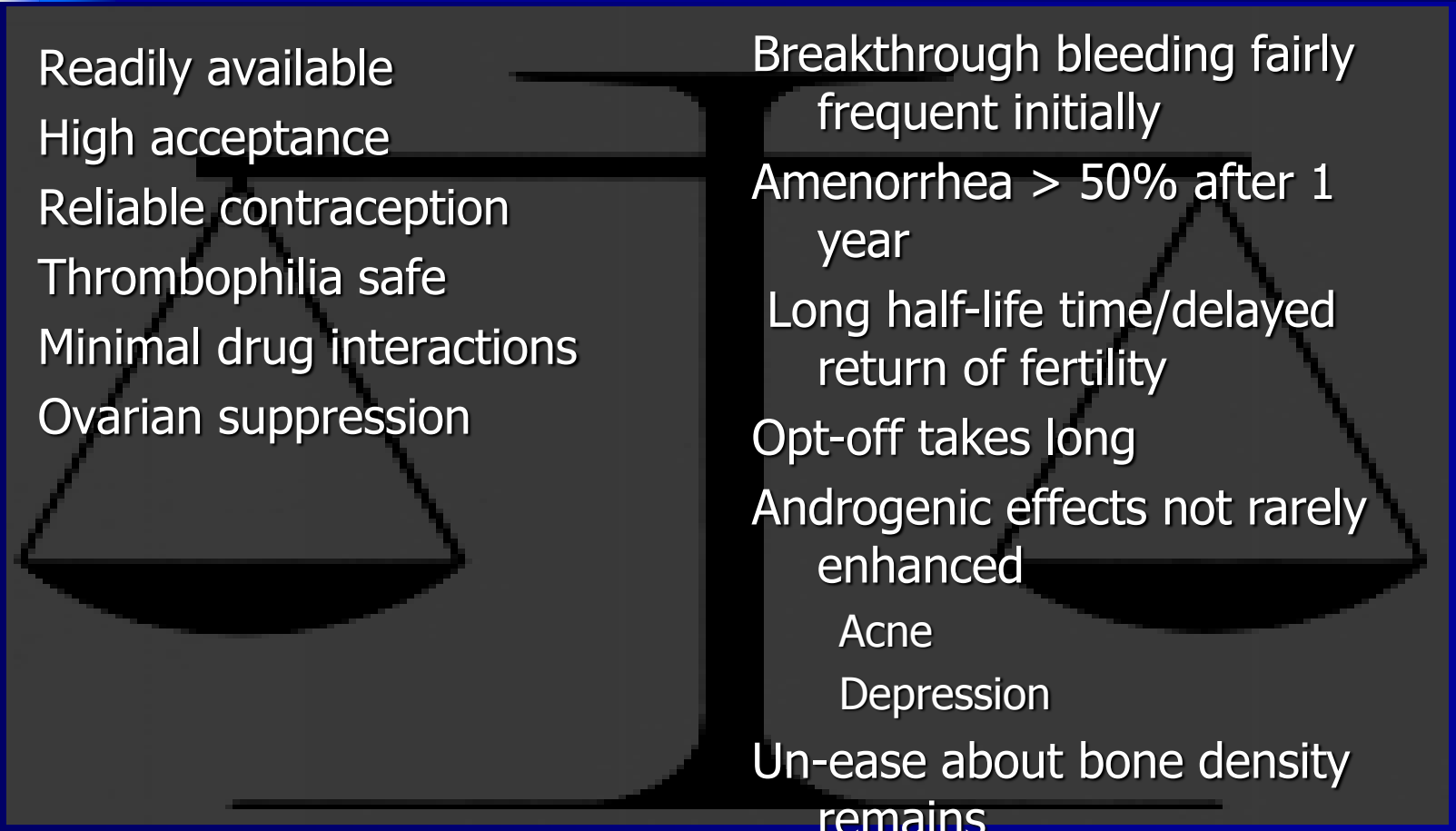
Progesterone-only pill



- "Pure" / original form of contraception
- Least add-on effects
- Thinning of endometrium = decreased blood loss
- Thrombophilia safe

- Compliance issues (2 hr window)
- Breakthrough bleeding not infrequent
- ↓ Reliability ⇔ BMI ↑
- Some androgenic effects may be enhanced
  - Acne
  - Depression

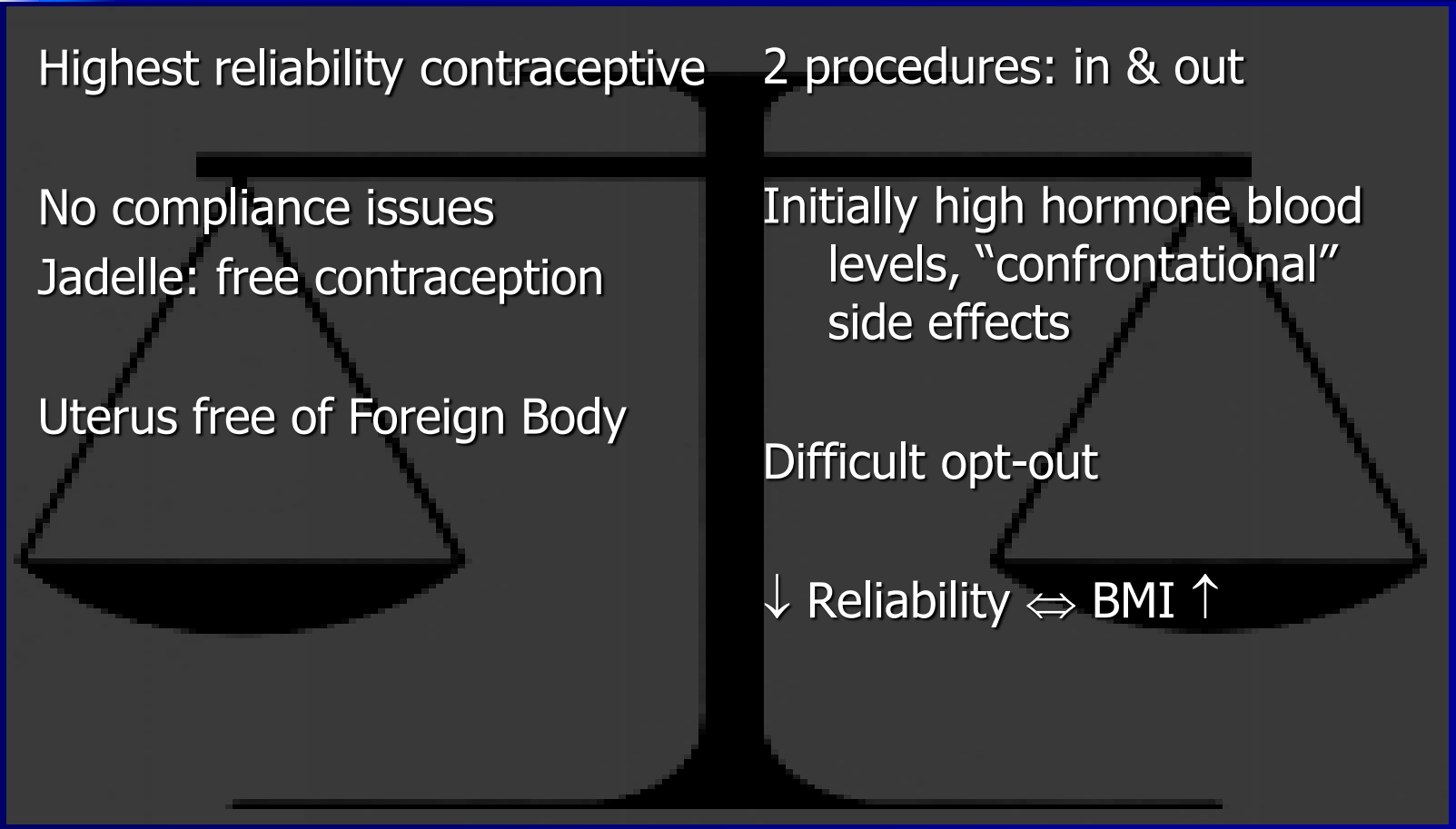
Depot – Provera



- Readily available
- High acceptance
- Reliable contraception
- Thrombophilia safe
- Minimal drug interactions
- Ovarian suppression

- Breakthrough bleeding fairly frequent initially
- Amenorrhea > 50% after 1 year
- Long half-life time/delayed return of fertility
- Opt-off takes long
- Androgenic effects not rarely enhanced
  - Acne
  - Depression
- Un-ease about bone density remains

Implants: Jadelle > Implanon



Highest reliability contraceptive

No compliance issues

Jadelle: free contraception

Uterus free of Foreign Body

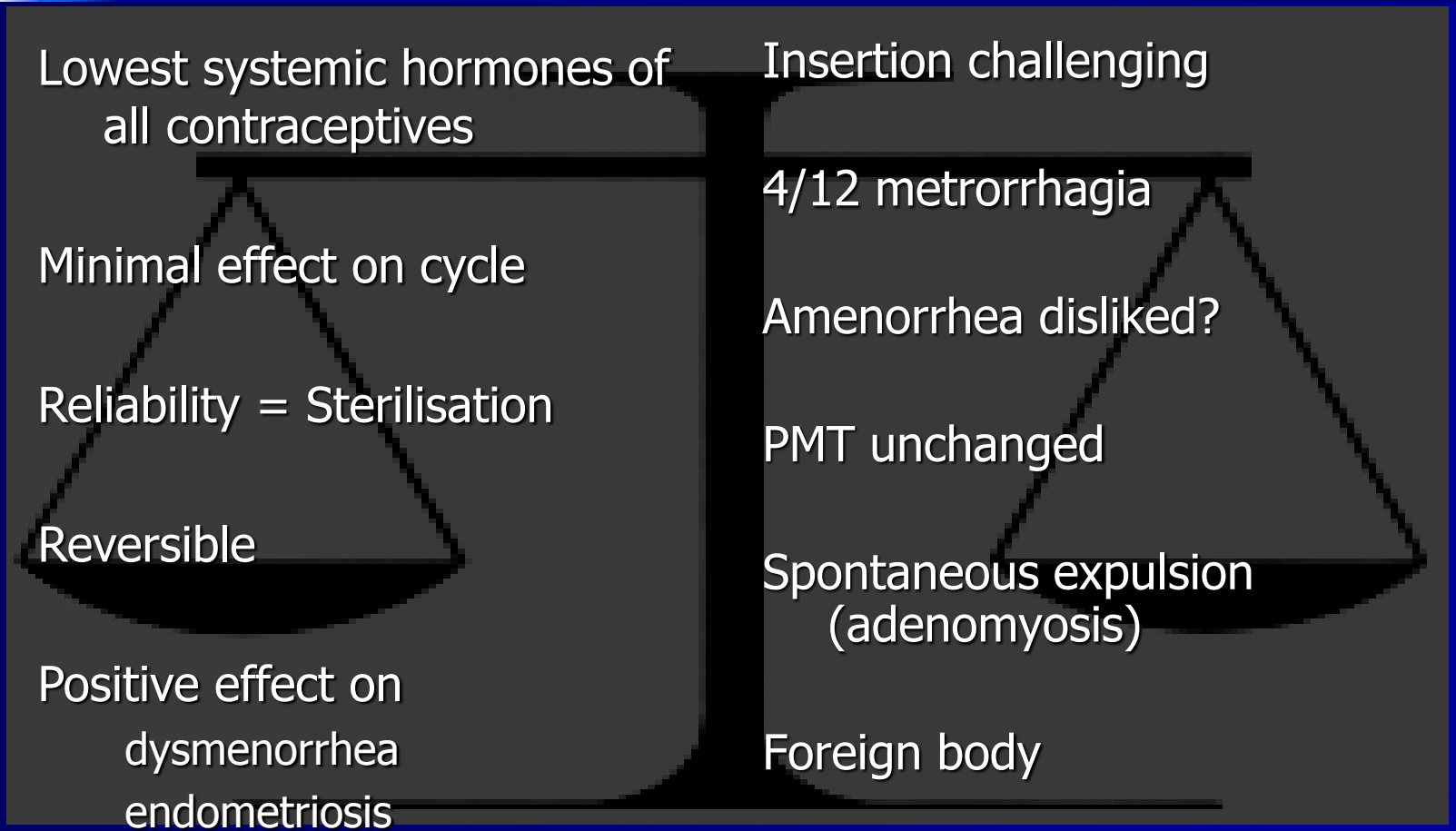
2 procedures: in & out

Initially high hormone blood levels, "confrontational" side effects

Difficult opt-out

↓ Reliability ⇔ BMI ↑

Mirena



Lowest systemic hormones of all contraceptives

Minimal effect on cycle

Reliability = Sterilisation

Reversible

Positive effect on
- dysmenorrhea
- endometriosis

Insertion challenging

4/12 metrorrhagia

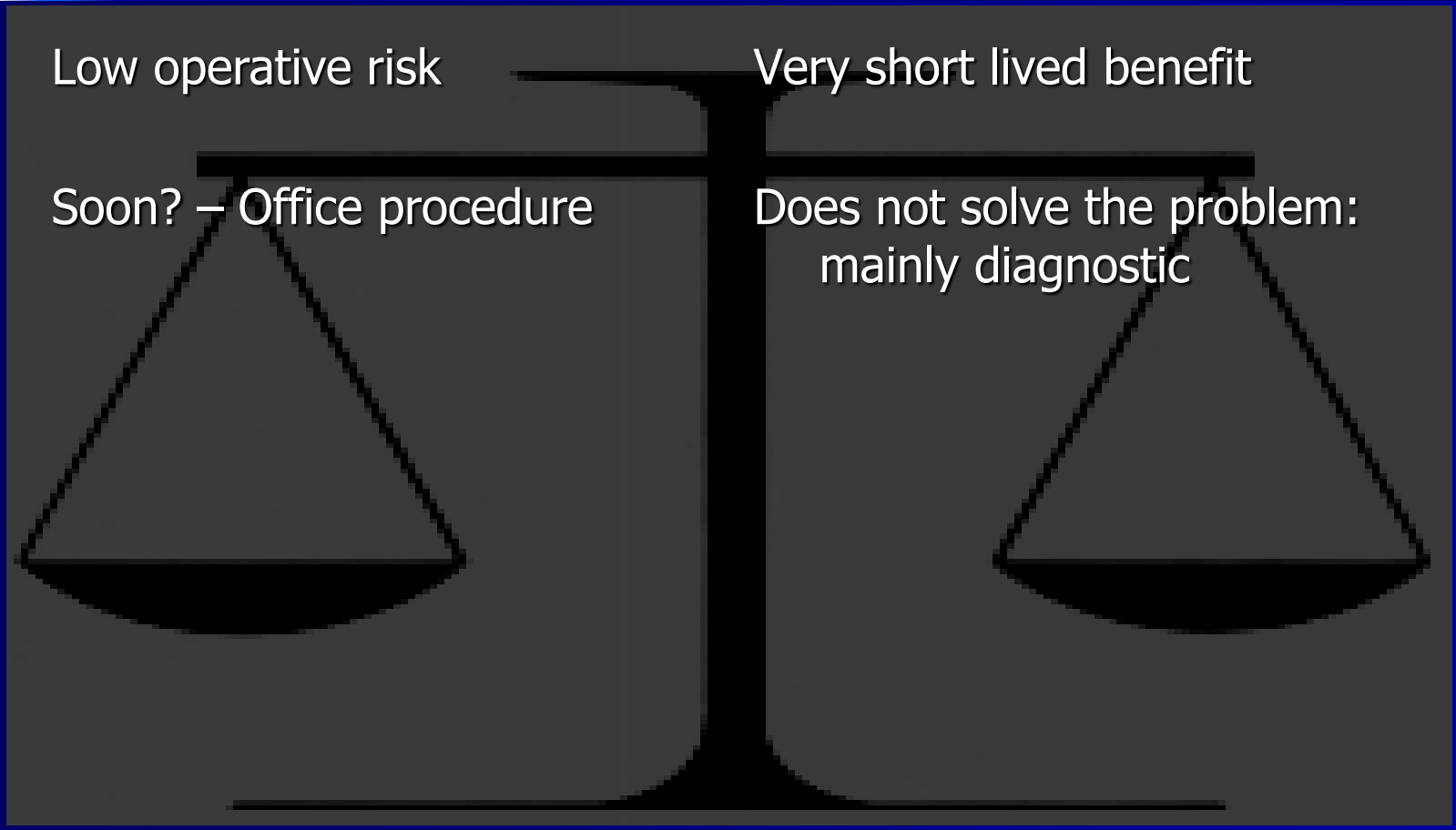
Amenorrhea disliked?

PMT unchanged

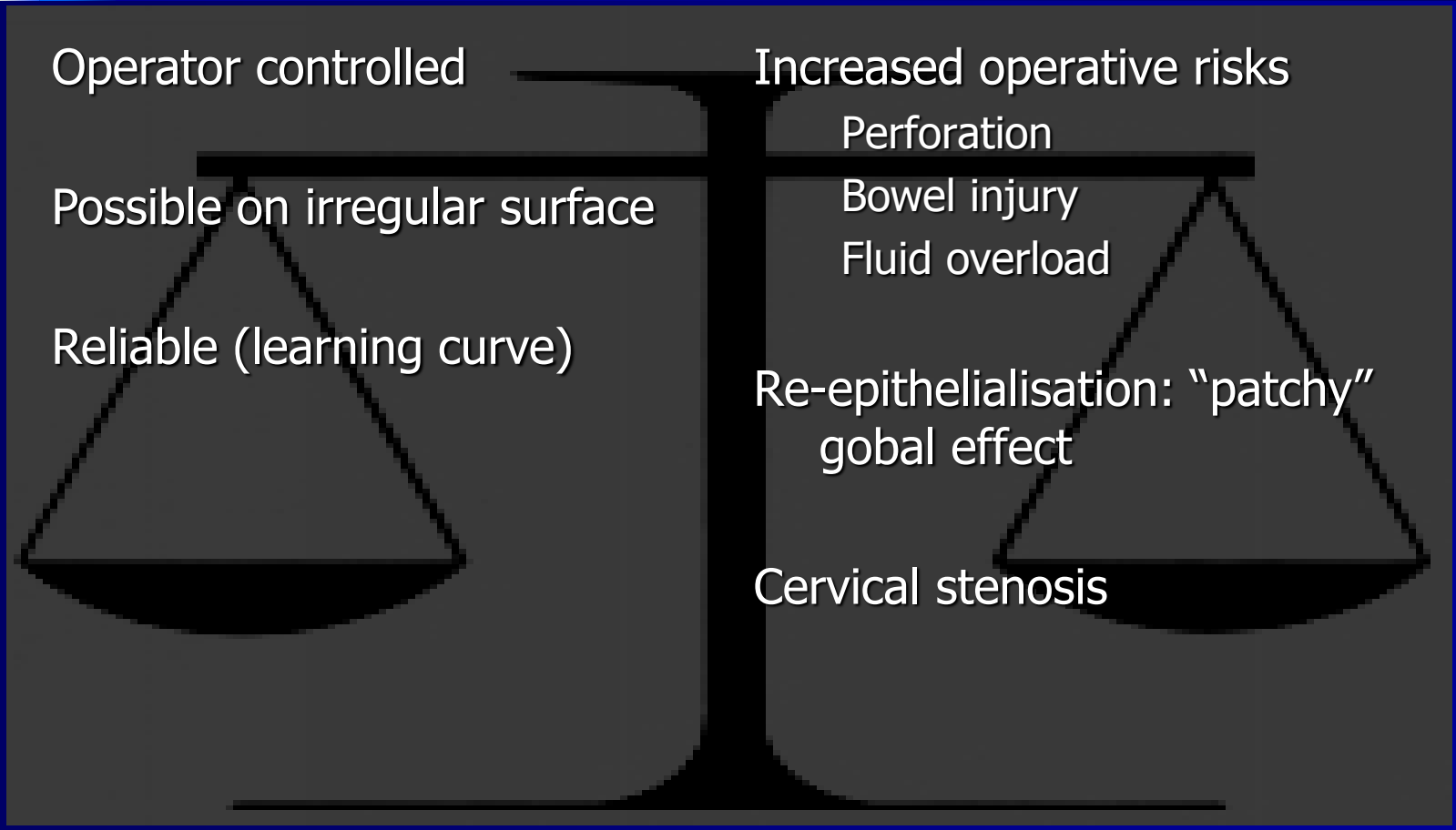
Spontaneous expulsion (adenomyosis)

Foreign body

Hysteroscopy + Curetting



Rollerball Ablation (historic?)



Operator controlled

Possible on irregular surface

Reliable (learning curve)

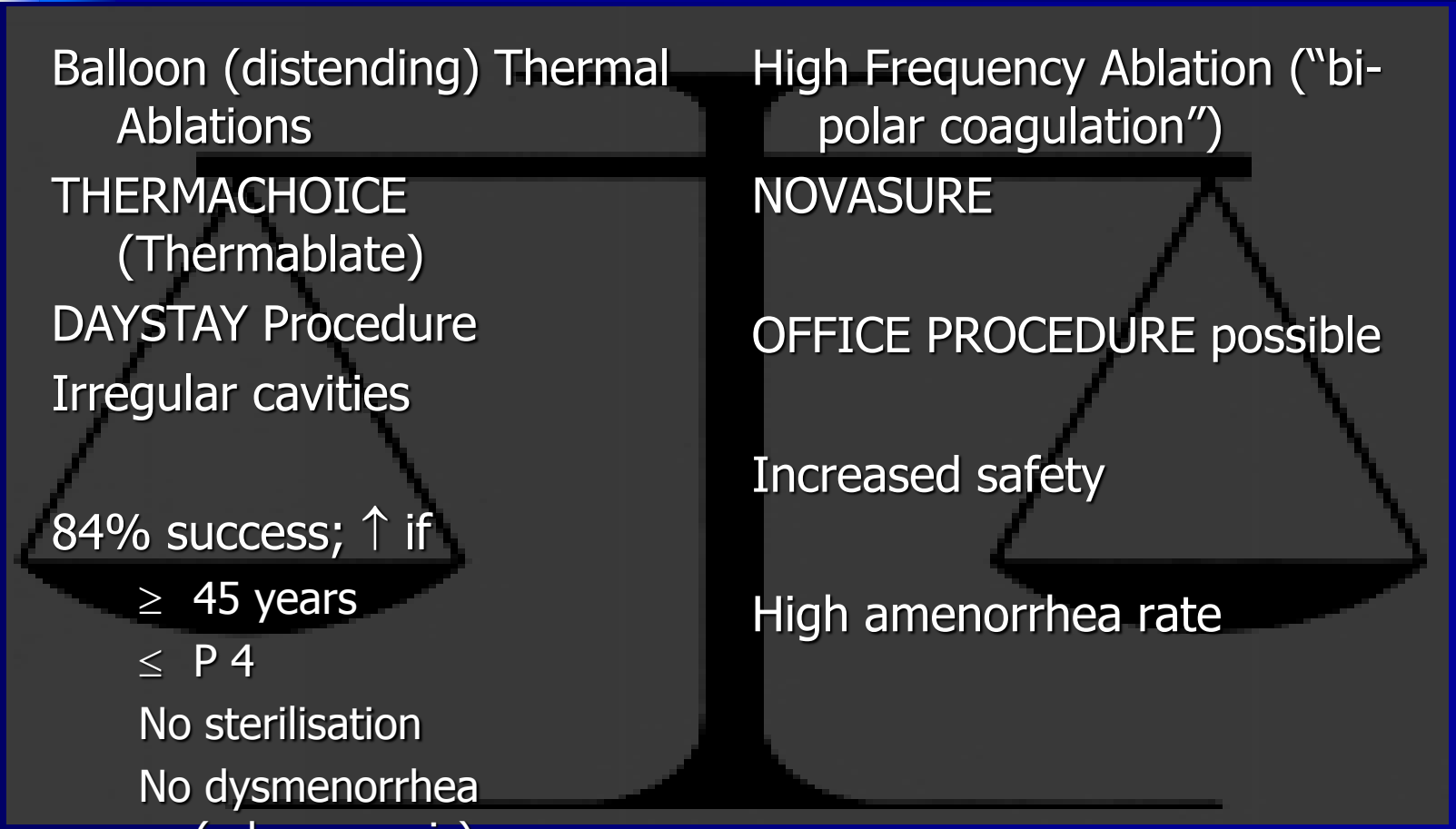
Increased operative risks
- Perforation
- Bowel injury
- Fluid overload

Re-epithelialisation: "patchy" gobal effect

Cervical stenosis

Endometrial Ablation

El-Nashar, S; Hopkins, M: Obstet Gynecol. 2009 January; 113(1): 97–106 – 8 years, 800 cases



Balloon (distending) Thermal Ablations

THERMACHOICE (Thermablate)

DAYSTAY Procedure

Irregular cavities

84% success; ↑ if

- ≥ 45 years
- ≤ P 4
- No sterilisation
- No dysmenorrhea (adenomyosis)

High Frequency Ablation ("bi-polar coagulation")

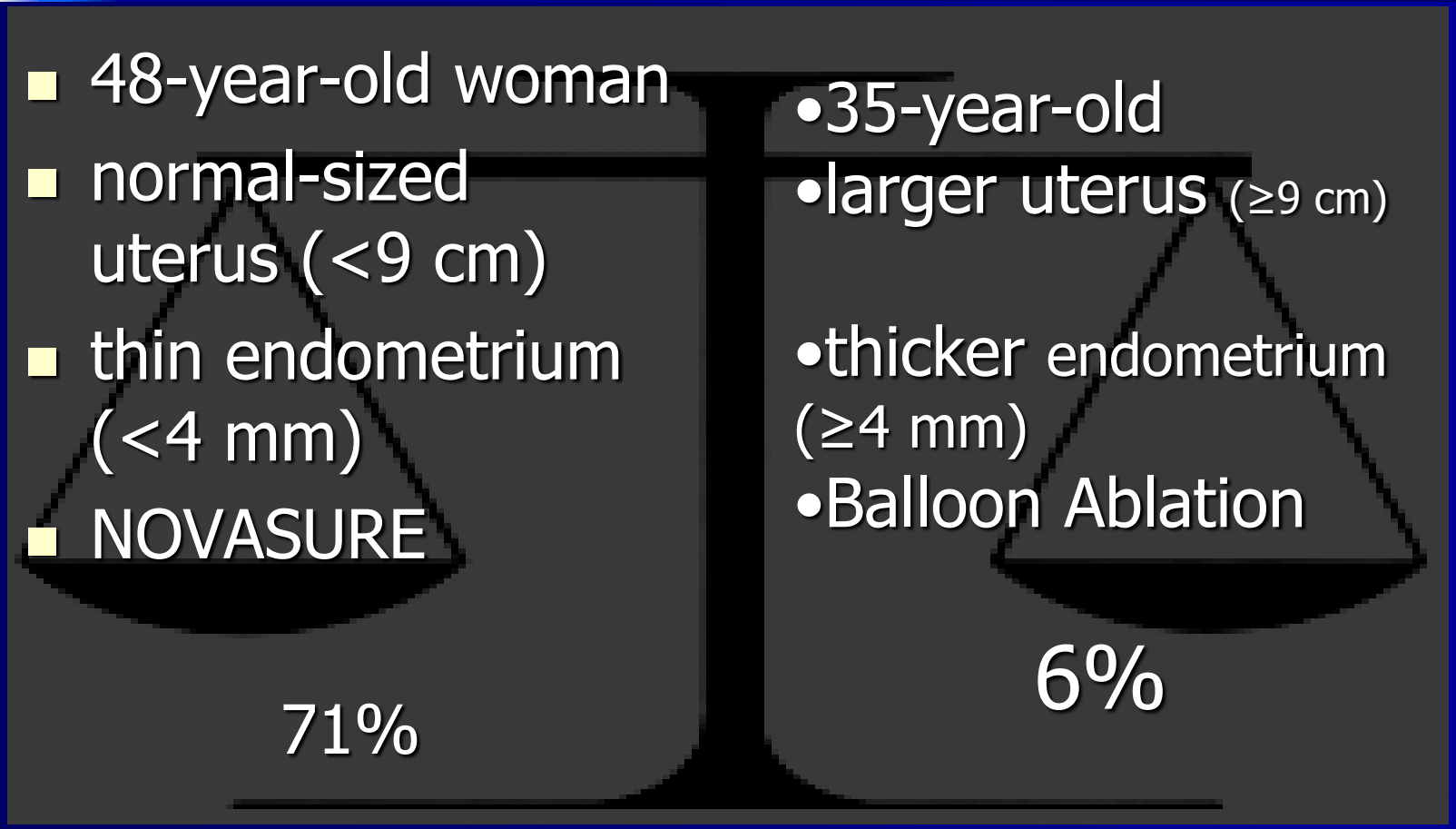
NOVASURE

OFFICE PROCEDURE possible

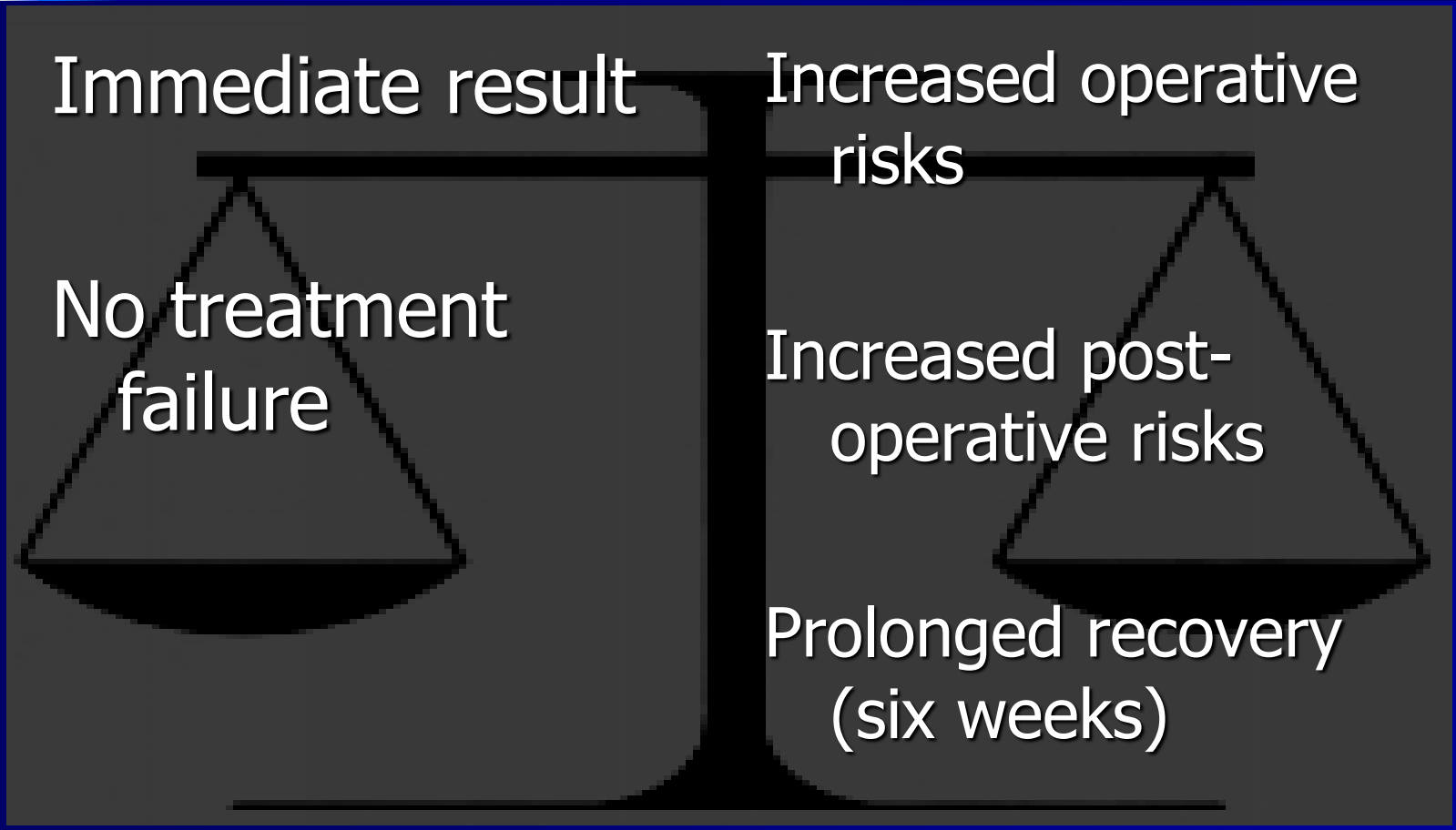
Increased safety

High amenorrhea rate

Estimate Amenorrhea 25% - 50%



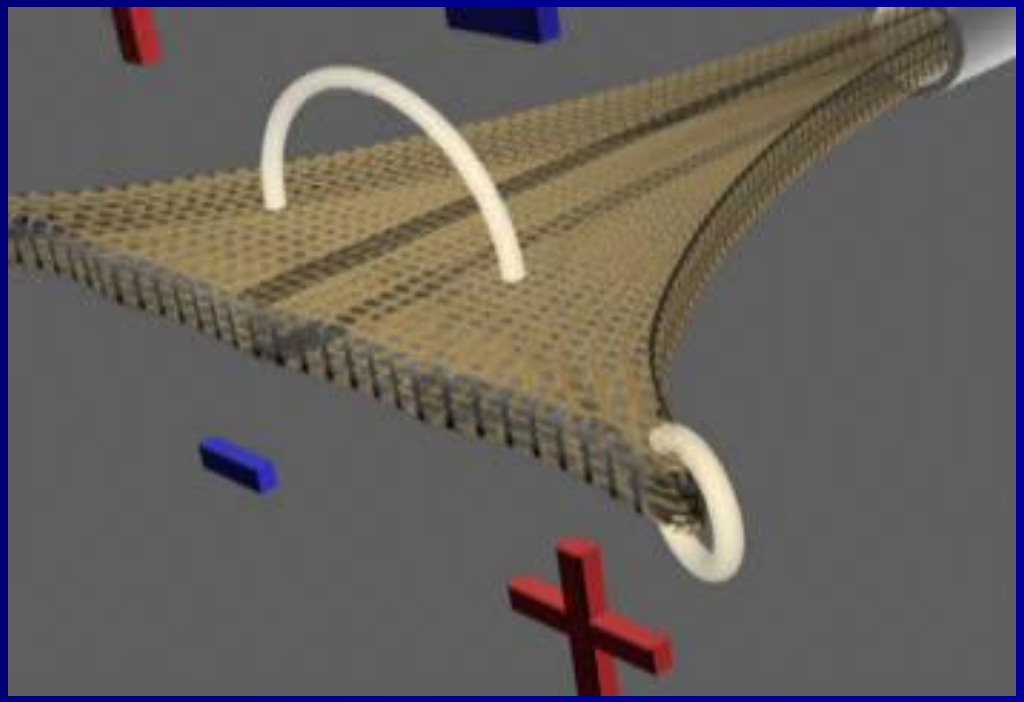
Hysterectomy



NOVASURE Radio Frequency Device

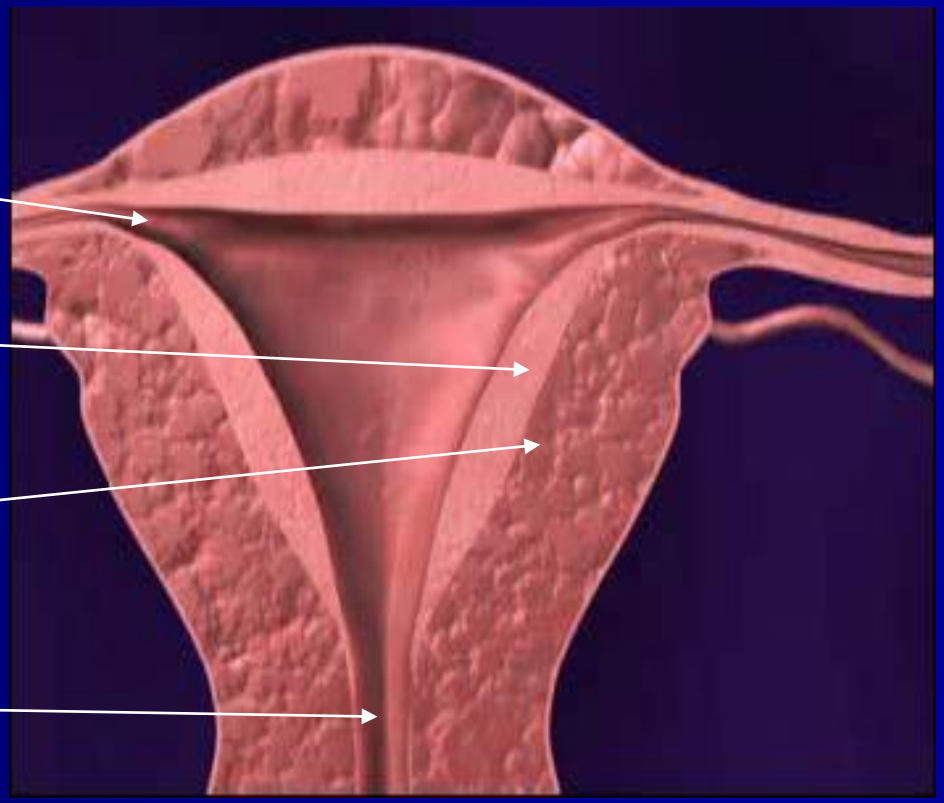
NovaSure™ System
Principle of Operation

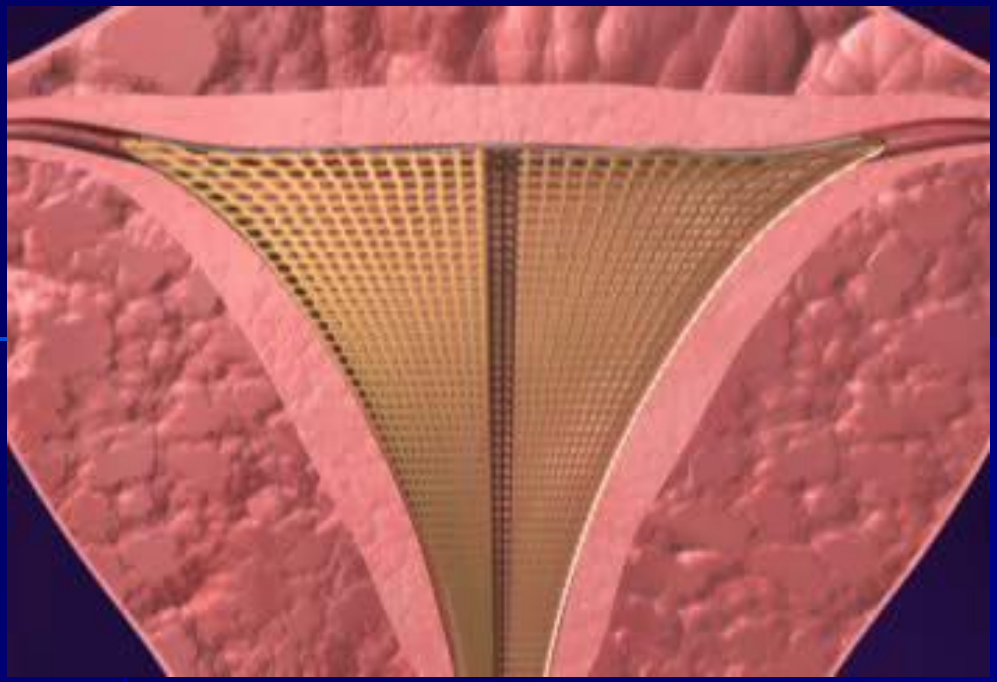
- Shallower Destruction in Cornua, Lower Uterine Segment
- Deeper Destruction Mid-Body of the Uterus



The Treatment Goal

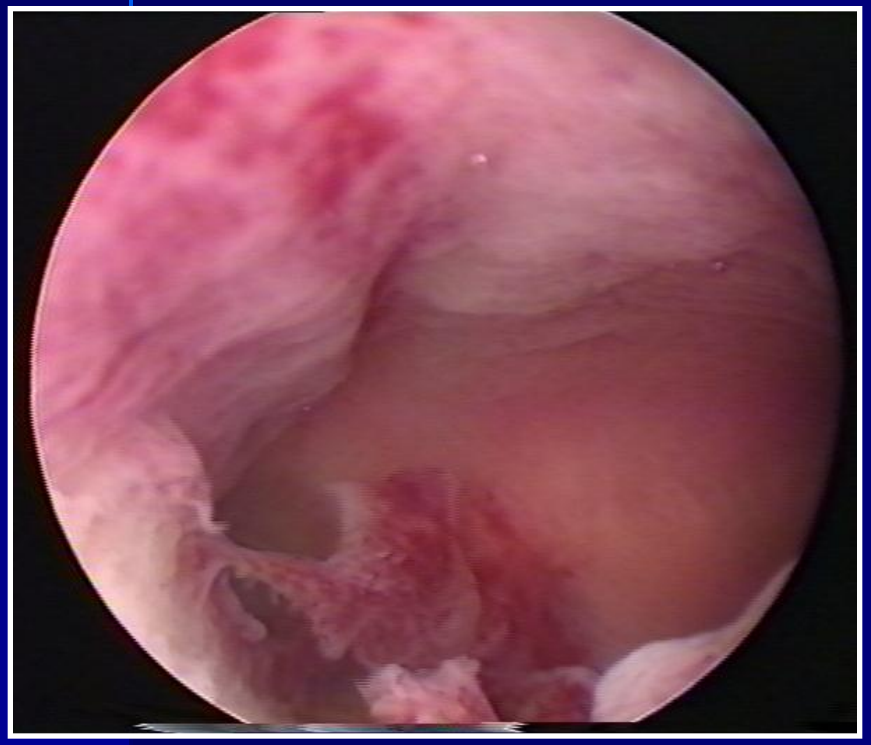
- Tapered ablation in Cornu and Internal Os
- Destroy the endometrium
- Destroy the superficial Myometrium
- Spare the cervix



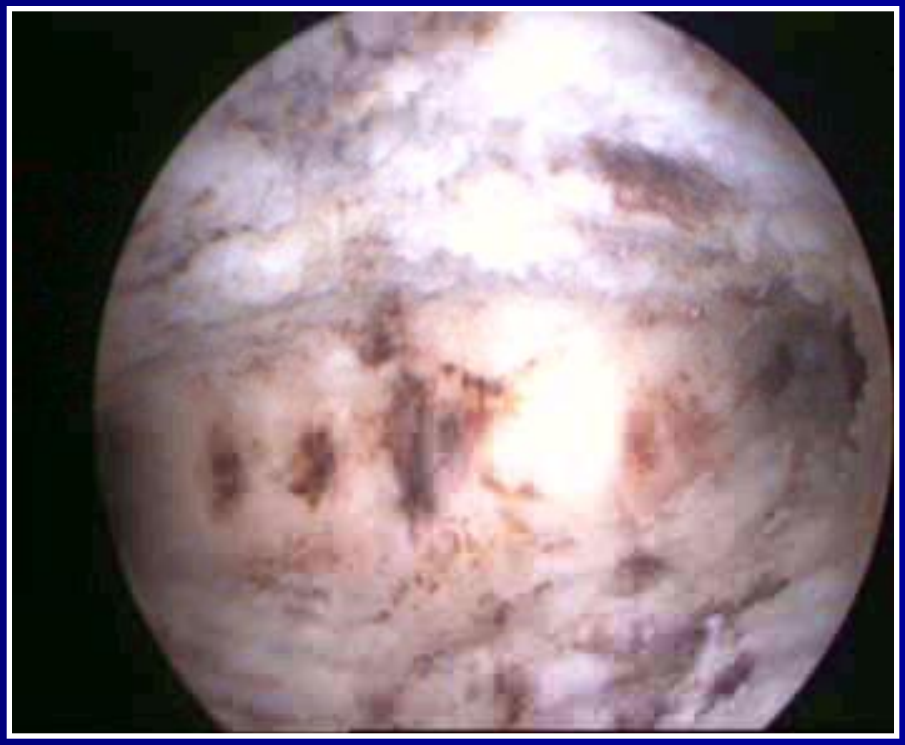


Hysteroscopic Views

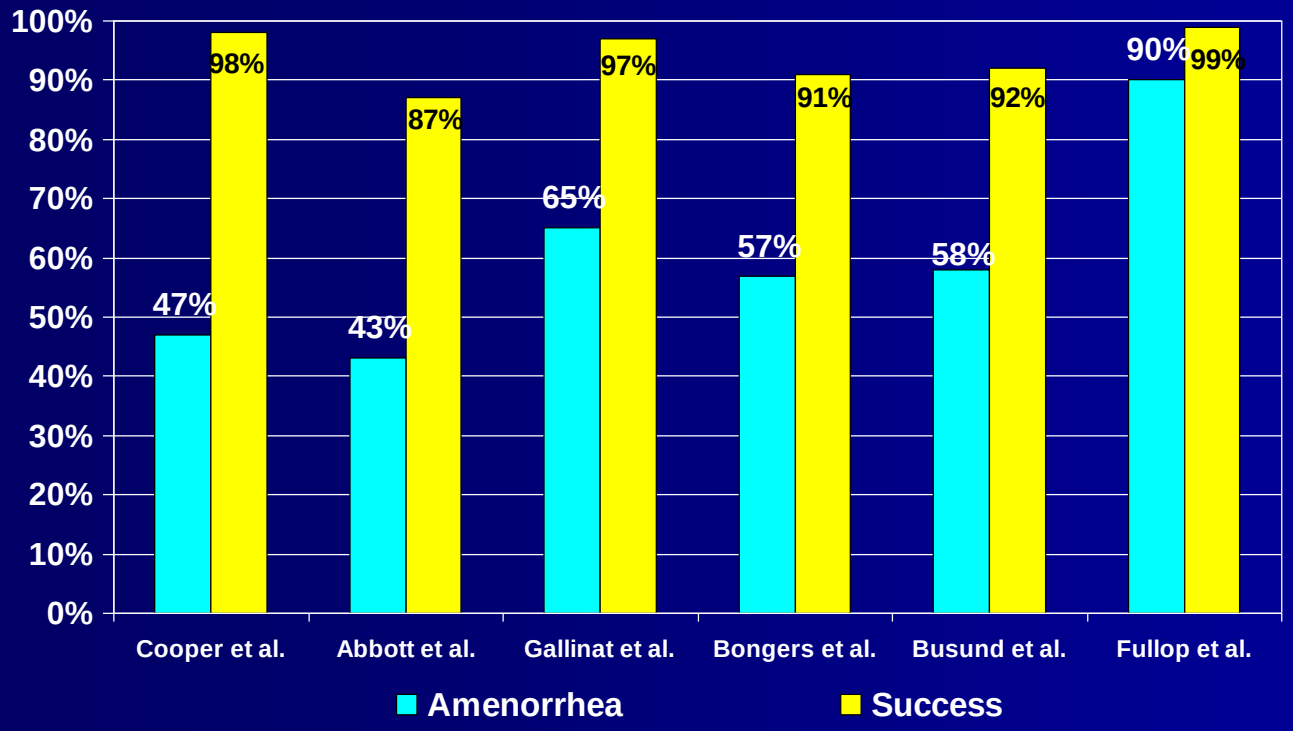
Pre-ablation



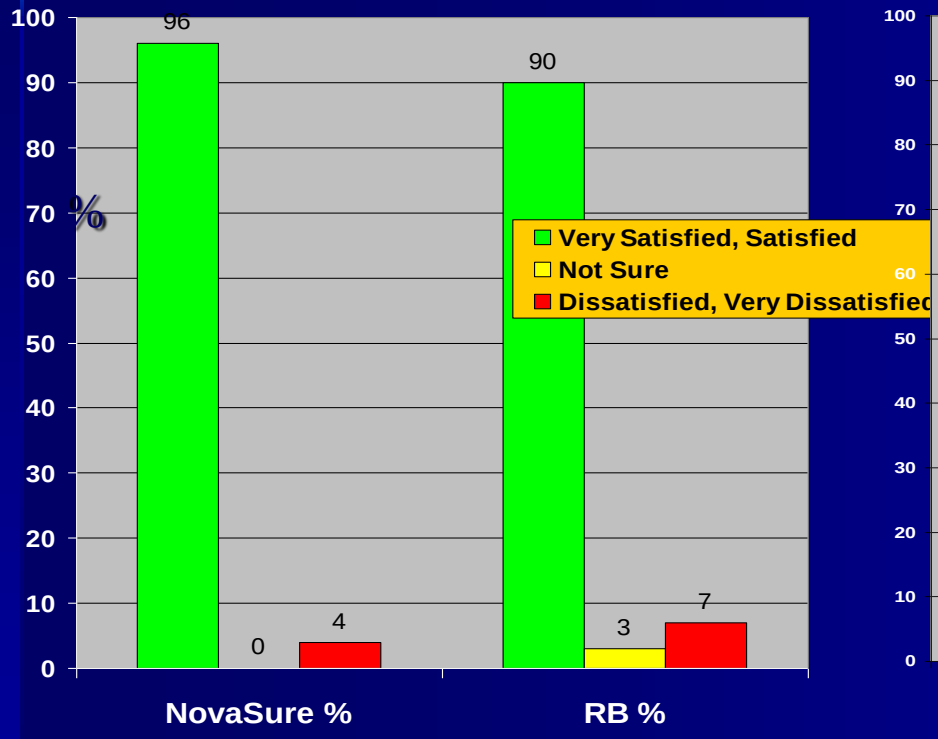
After 85 second treatment



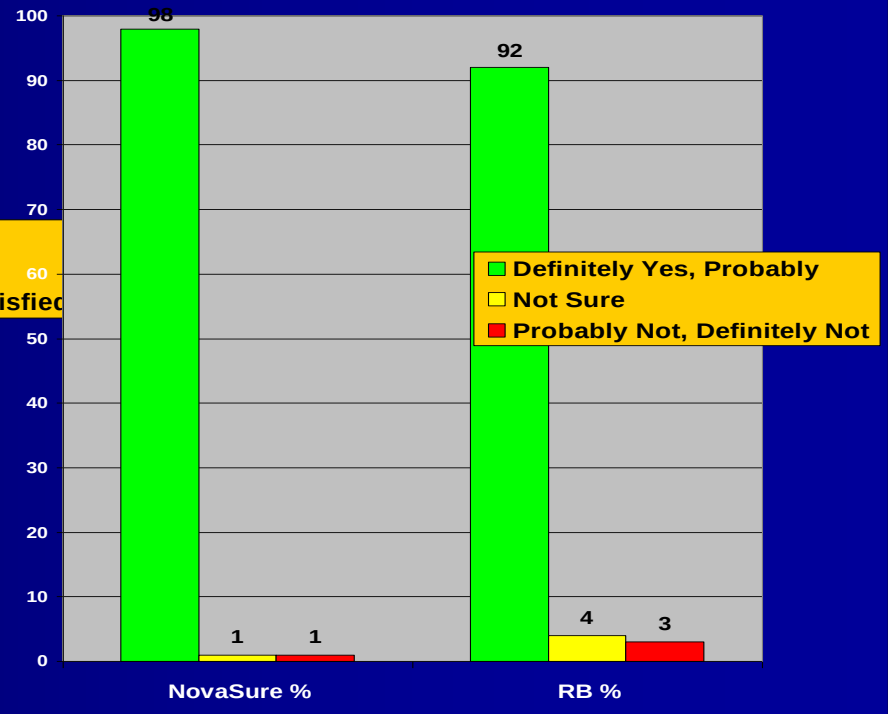
Novasure 3 year FU



Satisfaction Novasure : RB
(3-Year Follow-Up)

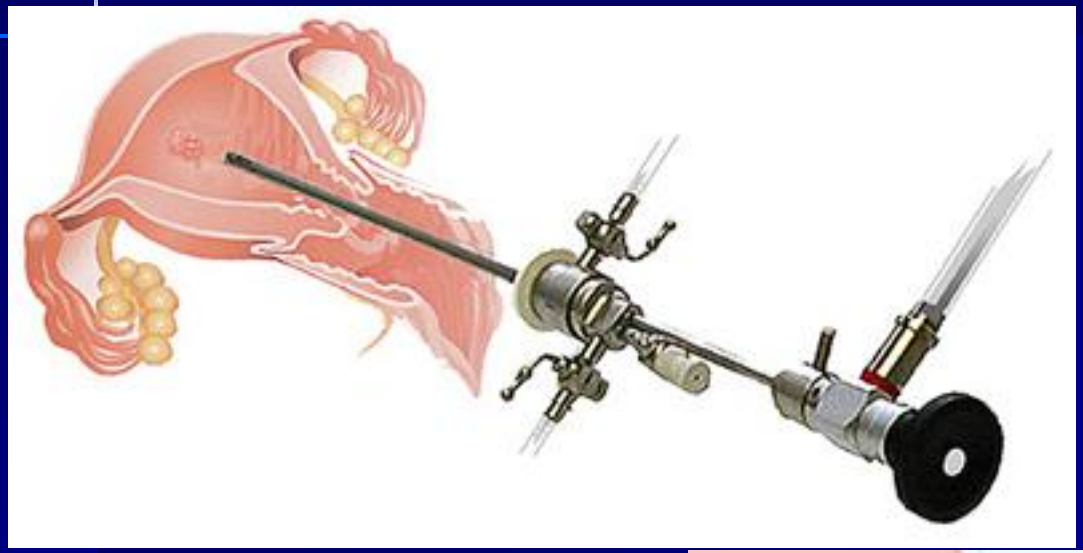


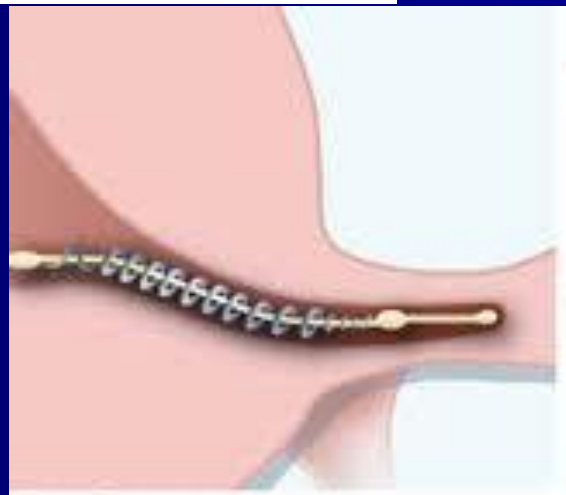
Patient Satisfaction



Recommendation to a Friend

Hysteroscopic Sterilisation





The flexible **Essure** microinsert in position.

The **Adiana** silicone polymer matrix in position after application of radiofrequency energy.

Direct contact invited

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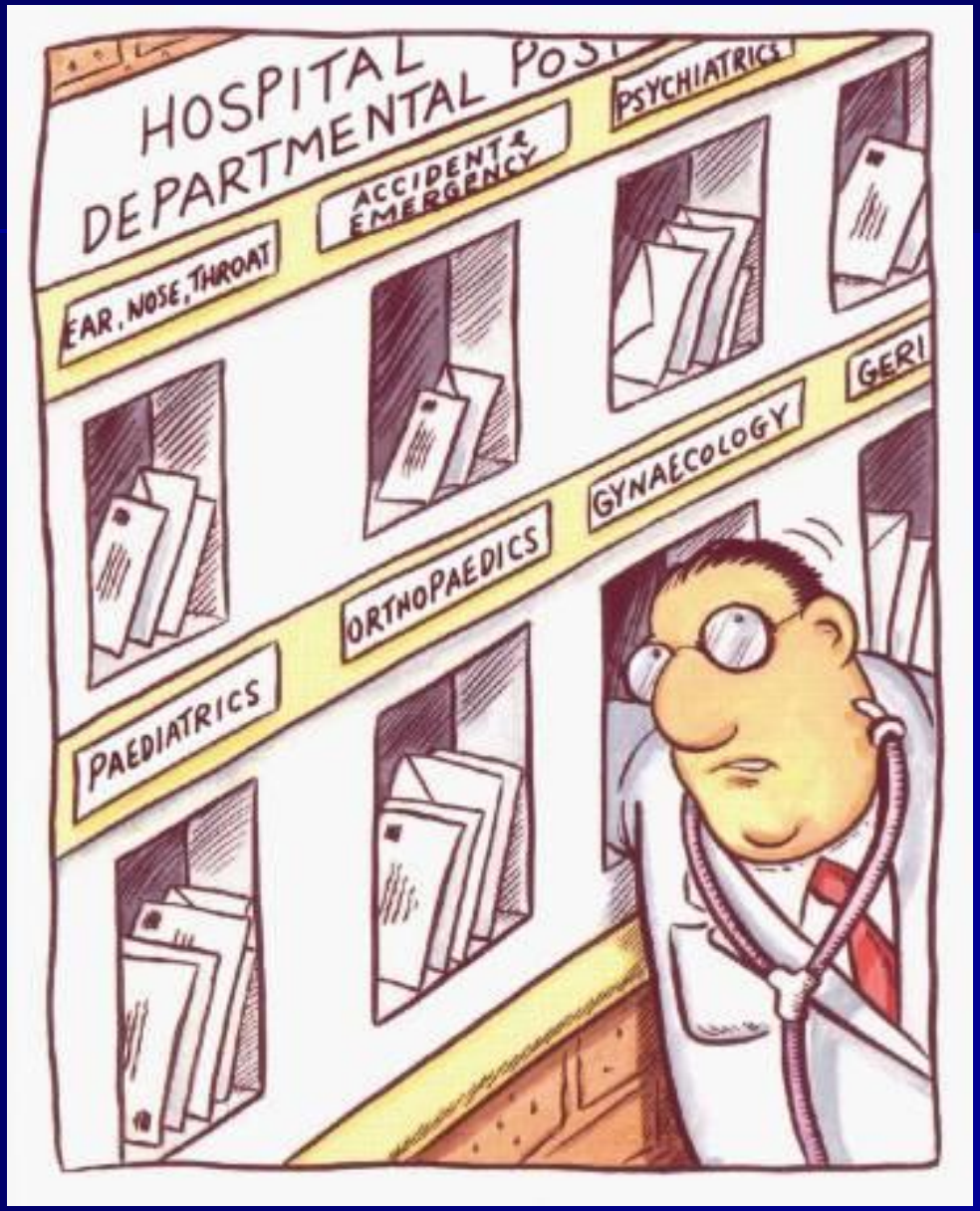
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