Salisbury NHS Foundation Trust

NAPS National Association for Premenstrual Syndromes

Contraception for the 21st century – beyond fertility control

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17/11/2023

Declaration of interests

Medical Advisory Council Executive and member of the British Menopause Society.

Trustee and medical advisor to the National Association of Premenstrual Syndrome

Member of the Institute of Psychosexual Medicine, Previous Exec and Trustee

Previous Exec Treasurer and Trustee of the British Society of Psychological Obstetrics, Gynaecology and Andrology

Member of the British Fertility Society

Sponsorship

2001-4

funding for travel from Galen and Ferring

Salary payment to run a trial from Servier

2019

consultant for Shionogi

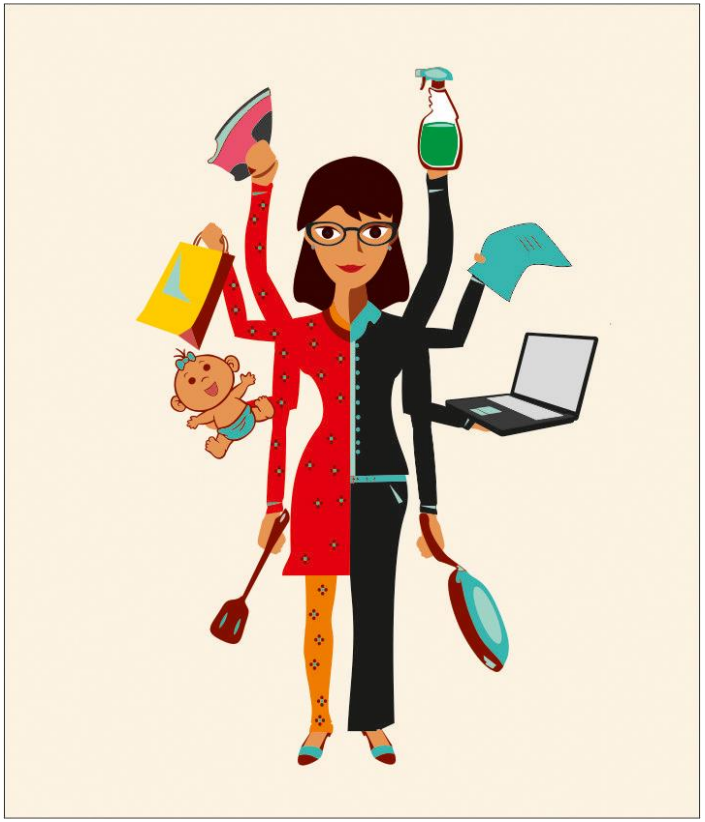
2020-1 Sponsorship from Besins and Gideon Richter

Why is contraception important?

Control

- of fertility

- of cycle
- of flow
- of PMS
- of peri-menopause



Ideal contraception

Effective
Reversible
Doesn’t interfere sex
No side effects
Fully protective STDs
Additional benefits

Not user dependant

Minimal input HCP

Contraindications

Risks

Duration

Cost

Methods of Contraception

Hormonal

Combined O&P
- Pill
- Patch
- Ring

Progestogen-only
- Pill
- Injectable
- Sub-dermal implant
- Intrauterine system

Emergency
- Progestogen
- Ulipristal acetate

Non-hormonal

Copper intrauterine device

Condom

Diaphragms and caps

Natural methods

Sterilization
- Male
- Female

FSRH
The Faculty of Sexual & Reproductive Healthcare

FSRH UK Medical Eligibility Criteria for Contraceptive Use (UKMEC 2016, amended 2019)

RISK	UKMEC DEFINITION OF CATEGORY
Category 1	A condition for which there is no restriction for the use of the method
Category 2	A condition where the advantages of using the method generally outweigh the theoretical or proven risks
Category 3	A condition where the theoretical or proven risks usually outweigh the advantages of using the method. The provision of a method requires expert clinical judgement and/or referral to a specialist contraceptive provider, since use of the method is not usually recommended unless other more appropriate methods are not available or not acceptable
Category 4	A condition which represents an unacceptable health risk if the method is used

Efficacy

pregnancy in first year of use

Method	Chance of pregnancy	Typical use (%)	Perfect use (%)
No Method	21 in 25	85	85
Fertility awareness	1 in 4	24	0.5
Female diaphragm	1 in 8	12	6
Male condom	1 in 5.5	18	2
Combined hormonal	1 in 11	9	0.3
Progestogen only pill	1 in 11	9	0.3
Injectable Progestogen	1 in 16	6	0.2
Cu - IUCD	1 in 120	0.8	0.6
LNG - IUS	1 in 500	0.2	0.2
Progestogen Implant	1 in 2000	0.05	0.05
Female Sterilisation	1 in 200	0.5	0.5
Vasectomy	1 in 750	0.15	0.1

http://ukmec.pagelizard.com/2016#sectiona/effectiveness_of_contraceptive_method

Natural methods *FSRH 2015*

Types

Coitus interruptus

Lactational Amenorrhea

Temperature

Cervical mucus

(Billings method)

Dates (Rhythm Method)

Persona

Apps

Pros and cons

User dependent

In control of body

No chemicals / hormones

No side effects (pregnancy!)

CI – Irregular cycles

Barrier Methods

FSRH 2012

Types
Condom – male / female *Femidom*
Diaphragm – *Caya*
Cap – *Femcap*
Dental Dam
Sponge - *Today*
Spermicide

Inform only condoms protect partially re STDs

Latex = non-latex efficacy

Must use spermicide with cap/diaphragm

Nonoxyl 9 not recommended

Use water based lubricants

Lubricants recommended – external to condom only

Educate couple – use,

failure rate, factors affecting

efficacy and when extra required

Diaphragm

Need to teach insertion/removal

Insert dome facing down

Sits behind pubic symphysis to posterior fornix

Spermicide both sides

Leave for at least 6 hrs post coitus

Review 1 week 3/12 1 year

Change size postpartum and weight changes

Caya one size 2014

Arcing spring Coil spring both discontinued

Cervical cap

Femcap 3 sizes

Suction over the cervix

Spermicide

Teach fitting technique

Leave 8hrs to 3/7post coitus

Dumas / Vimule discontinued

FSRH 2015

Sterilisation

Male

Irreversible

Failure rate 1 in 2000

Local anaesthetic

Quick and easy

Can now be min invasive

Wait to ensure SA clear

FSRH 2014

Female

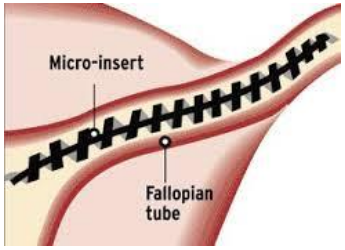
Ireversible

Failure rate 1 in 200

General anaesthetic

Intra-abdominal operation

Ensure not pregnant



ESSURE withdrawn 2017

Intra-Uterine Contraceptive Device

Advantages

Effective

Cheap

Safe

Any patient

Not user dependent

Long acting 3-5yrs

Non-hormonal

Reversible

Disadvantages

Trained HCP

No barrier to STIs

Concerns: Infection

Perforation (1/1000) Expulsion

SE – Dysmenorrhea Menorrhagia Discharge

Insert Day 5 – 19 *FSRH 2023*

Insert at TOP, <48hrs or 6-8 weeks post delivery

Most effective form of post-coital contraception insert up to 5/7 post first UPSI

If over 40, can stay in till after menopause

CI: abnormal bleeding congenital uterine anomaly

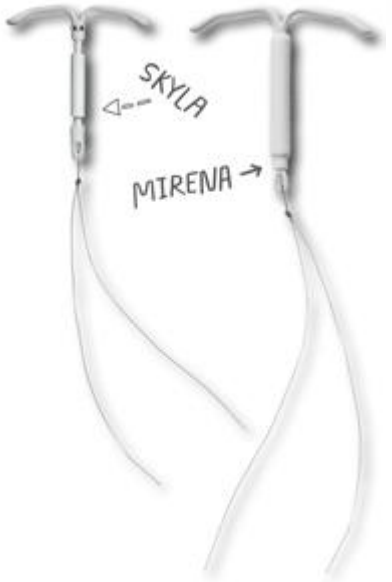
Pregnancy: Intrauterine – remove
Ectopic – not inc/more likely

Remove – no UPSI 7/7

Missing strings - USS + barrier contraception

Intrauterine system

Mirena Kyleena Jaydess Levosert



52mg (20mcg/24hrs) / 19.5mg (9mcg/24hrs) / 13.5 mg (6mcg/24hrs)

Levonorgestrel

5 years / 3 years contraception

Not emergency contraception

Licensed indications

Contraception: Change 5-yearly until age 45

Fitted at 45 – can leave for **6** yrs

Menorrhagia alone May leave as long as is being effective.

HRT **5** -yearly change

Intrauterine system

Advantages

Efficacy 99.7 - 99.8%

Not user dependant

Long term 3-5yrs

Relatively cheap

Fully reversible

Effective >7 days

Few CI

Few SE

– lowest dose P

Endometrial response to endogenous oestrogen immediate upon removal

Disadvantages

Requires trained HCP to insert

Does not stop ovulation

Irregular bleeding 3-6/12 Progestogenic side effects

Insertion risks

Not emergency

Evo-inserter introduced 2012

Additional benefits – treatment of endometriosis adenomyosis

Treatment of HMB - 80% less blood loss

Endometrial protection in HRT

Amenorrhea 80%

Anovulation 15%

Hormone replacement

Oestrogens

Oral

Gel

Patches

Androgens

Testosterone gel

Progestogens

Oral tablets capsules

Vaginal pessaries creams

(Patches – combined)

Intrauterine systems

Implants

Progestogen only contraception

IUS – *Mirena Jaydess*

Implant – *Nexplanon*

Injection – *Depoprovera*

Oral – *POP Cerazette*

<u>Progestogenic effects</u>

Thicken cervical mucus

Endometrial hostility

Do not always stop ovulation

No (part) barrier to STIs

Can use in lactation

Assoc. ovarian cysts

Progestogenic SE

Depot injection

FSRH 2023

Inhibits LH, FSH, oestradiol
Amenorrhoea 30% <1 yr

Unreceptive endometrium
Cervical mucus hostile
Anovulation

Depo-Provera
medroxyprogesterone acetate150mg/12 weekly IM

Sayana Press Jun 2013
medroxyprogesterone acetate 104mg/13 weekly SC

Norethisterat
200mg Norethisterone 8/52

Advantages

Useful for poor compliers

C.I. – IHD MI CVA liver disease

Disadvantages

menstrual irregularity

fertility delayed return

Prolonged use - reduced bone density

Progestogenic SE - mood symptoms, weight gain

E deficiency SE

Slight inc risk Ca Breast

Sub-dermal implants

Implanon replaced by Nexplanon Nov 2010

Radio opaque

Insertion: D1-5, 21 days post-delivery At STOP

Advantages

Last 3 years Avoids first pass effect

Prevents ovulation + P effects, Amenorrhea

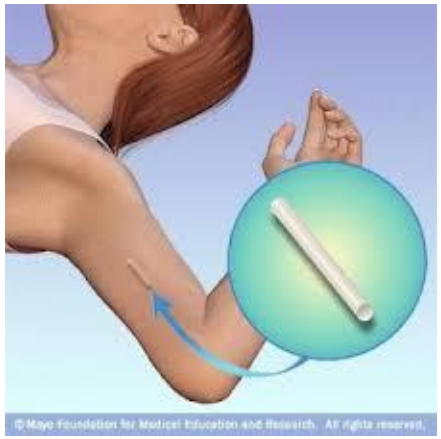
Reversible - fertility returns to normal <1month

No effects on bone density VTE CVA MI

Not user dependent

Nexplanon®
68 mg etonogestrel

Disadvantages



Needs HCP insertion/removal

deep insertions/difficult removals

SE – irregular bleeding, progestogenic

CI – enzyme inducers

Obesity not a problem to 149kg

Progestogen Only Pill

FSRH 2009

ADVANTAGES

Use in older women

Use in VTE Migraine DM hypertension

No effect on lactation

Safe – few CI

First POP launched 1969

Action: thickens cervical mucus

Reduces endometrial receptivity

Inhibits ovulation in 15-50% of cycles

Start Day 21 PN, Day 5 in cycle, After TOP

Take one daily continuously 28/28

No need to take 2 if over 70kg

DISADVANTAGES

Less effective contraception

40% reg / irreg bleeding

20% amenorrhoea

SE - P effects, mood

Acne Breast discomfort

Need good compliance – 3hr window

CI – liver inducers, 4/52 condoms

Progestogen-only pills currently available in the UK

Femulen® Etynodiol diacetate 500 µg

Micronor® Norethisterone 350 µg

Norgeston® Levonorgestrel 30 µg

Noriday® Norethisterone 350 µg

Cerazette® Desogestrel 75 µg

Desogestrel 75mcg

Launched 2002
Higher dose progestogen only pill
Action: Ovulation inhibition 97% of cycles
Plus - Thickening of cervical mucus
Inhospitable endometrium

Disadvantages

SE – P effects

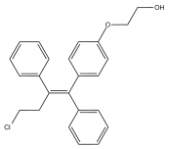
VVA / E deficiency

Advantages
As efficacious as COC
12 hour window
More appropriate for younger women
Safe – few CI
Less spotting / more amenorrhea
Can be used in lactating women

Vaginal Topical oestrogens

Pessary *Vagifem / Vagirux* 10mcg
Imvaggis
Cream *Ovestin*
Ring *Estring*
Gel *Blissel*
DHEA *Intrarosa*
Oral Ospemifene *Senshio*

Use once daily for 2 weeks then twice weekly for maintenance. Indefinitely
NO systemic absorption
NO progestogen needed
Can use post Breast Cancer



Combined hormonal contraception

Combined oral contraceptive pill	Daily
Contraceptive patch	Weekly
Contraceptive ring	Monthly

Contraceptive patch

Launched 2003

Daily release of oestrogen and progestogen

- 20 µg ethinylestradiol
- 150 µg 17-deacetylnorgestimate

1 patch a week for 3 weeks 1 week off

Effective Reversible

User dependant but not at SI

Same contraindications as COC

Potentially same benefits and risks as COC

Avoids 1st pass metabolism

No problem if GI upset

Expensive

Nuvaring

Launched in UK – Jan 2009

Monthly administration improves compliance

Avoids first pass metabolism

No need for extra precautions if GI upset

Releases 120 mcg etonorgestrel / 15 mcg ethinylestradiol daily

Lowest effective dose of oestrogen with similar efficacy to COC

Rapid return to ovulation

Needs refrigeration so only 4 months given at a time

Used for 3 weeks out of every 4

Can be taken out for up to 3 hours

?less metabolic + clotting effects

Combined oral contraceptive pill

20-50 micrograms Ethinylestradiol

Progestogens

1st generation	Norethindrone
2nd generation	Levonorgestrel 0.15-0.25mg
	Norethisterone 0.5-1mg
3rd generation	Desogestrel 0.15mg
	Gestodene 0.075mg
	Norgestimate 0.25mg
Other	Cyproterone acetate
	Drospirenone
	Dienogest
	Nomegestrol acetate

Reducing the dose to the lowest possible without reducing efficacy (10 fold reduction)

Newer progestogens

Less androgenic

Negligible impact on carbohydrate and lipid metabolism

Potent inhibitors of ovulation - dec estrogen dose

Can be used in treatment of acne and hirsutism

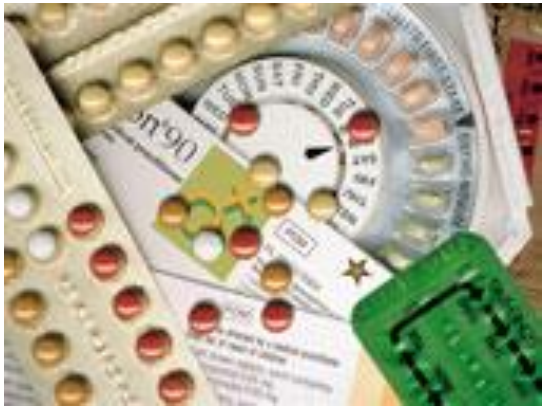
Mechanism of action COCP

Inhibit LH surge

Inhibit ovulation (-ve feedback)

Reduces endometrial receptivity

Reduces mucus sperm penetration



Advantages

Not at time of SI

Effective

Reversible

Oestrogenic

Reduce dysmenorrheoa, PID, menorrhagia, (PMS)

Reduce ectopic pregnancy rate, ovarian cysts

Reduce incidence ovarian / endometrial Ca

Disadvantages

Daily

User dependent

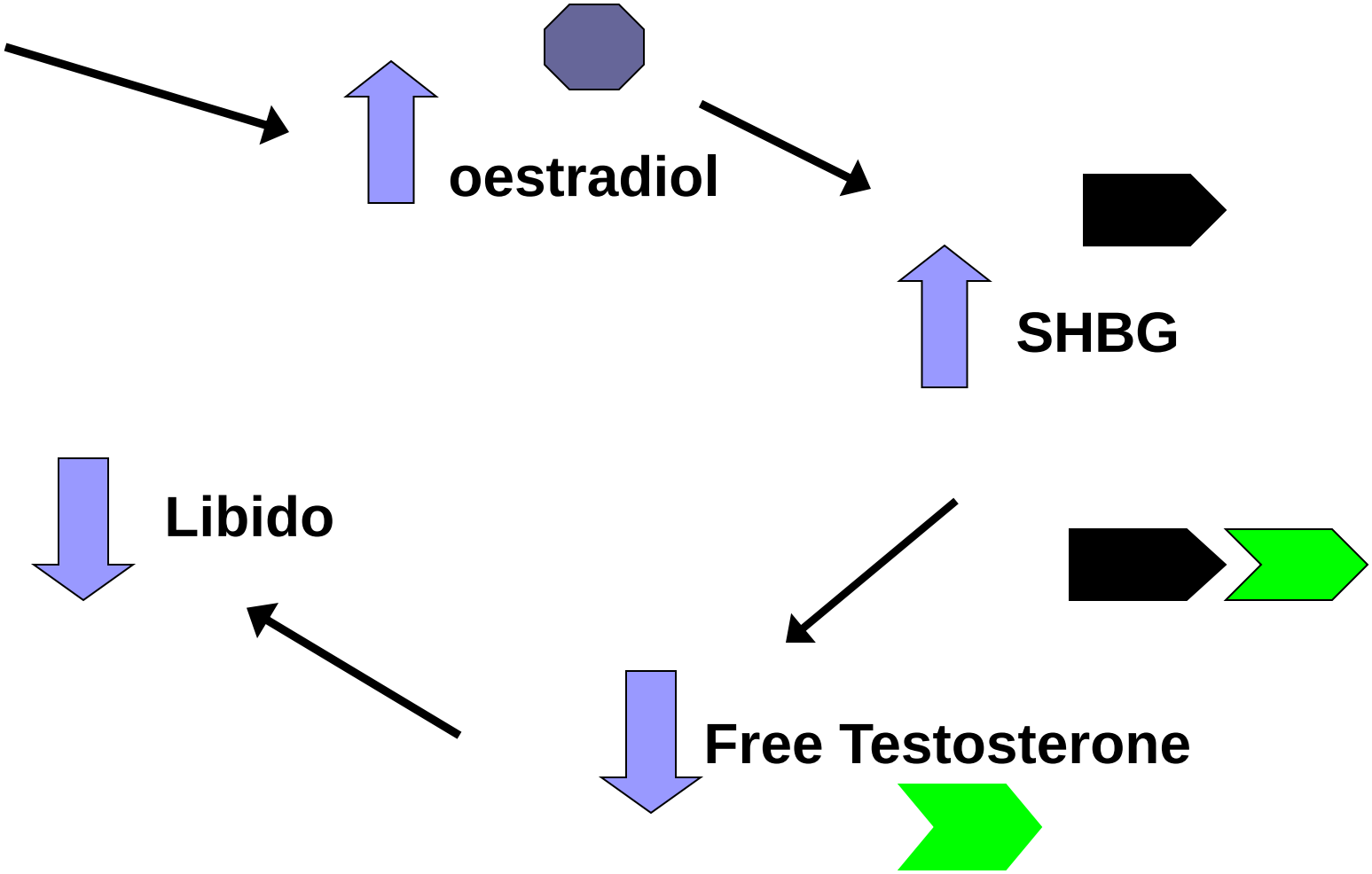
Min barrier to STIs

? Inc breast cancer

Inc risk VTE

Libido

Hormones and Libido



COCP - contraindications

Absolute

IHD TIA CVA Valvular cardiac disease

Focal migraine

Acute liver disease / tumour / porphyria

VTE

Trophoblastic disease / breast cancer

Undiagnosed abnormal bleeding / gynae cancer

NOT breast feeding

Relative

Young stable IDDM

Smoking 5-40 cigs / day

BP 160/95

Age > 35

50% above ideal body weight

Sickle / Chronic renal disease / SLE

Instructions

If diarrhorrea vomiting antibiotics (enterohepatic circulation of EE) - barrier precautions for 7/7

Enzyme inducing drugs will require higher dose of EE or change of contraception

- Anticonvulsants (not Na valproate)
- Rifampicin Griseofulvin

Can 'tricycle' pill ie up to 4 packs

Before surgery, consider risk of no contraception - thrombophrophylaxis

47% of women missed 1 pill per cycle
22% miss 2 pills per cycle
Poor compliance and discontinuation are estimated to account for 20% unplanned pregnancies

Rosenberg 1999 *Am J Obstet Gynecol*

Missed pill rules

COC - < 12hrs – next pill asap

COC - > 12hrs - next pill asap, barrier 7/7

(if within 7 days of finishing packet – start next packet)

POP - > 3hrs late - barrier 4 days

May 2011-12
If one active pill missed – no need for additional precautions
If two active pills missed – additional precautions for 7 days
Missed = >12hrs
Move towards quick starting methods, bridging contraception and towards flexible prescribing or tailored regimens

FACULTY OF SEXUAL & REPRODUCTIVE HEALTHCARE
ROYAL COLLEGE OF OBSTETRICIANS & GYNAECOLOGISTS

www.fsrh.org

COCP choice - General principles

Use lowest dose that gives cycle control and adequate contraception

Low dose (20mcg) ideal for obese/older women /teens

Standard strength (30-35mcg) for younger women (more fertile)

Higher dose (50mcg) women taking enzyme inducing drugs

3rd generation 30/100,000 VTE
2nd generation 15/100,000 VTE
Pregnancy 60/100,000 VTE
Remember VTE is rare and less than risk in pregnancy

1st time user with no issues, a 2nd generation as first line
But consider 3rd generation pill for those with arterial disease risk

3rd generation progestogen for acne/headache/depression/weight gain/BTB/breast symptoms/lipid profile/smoke/BP

Non-contraceptive benefits of combined E/P

Cochrane review 2010 all CHC have similar efficacy

- Control of menstrual cycle problems
- Dec incidence of / treatment for fibroids
- Dec incidence of / treatment for endometriosis
- Dec ovarian and endometrial Ca by up to 75%
- Dec colon Ca by up to 20%
- Dec benign breast disease
- Dec ovarian cysts

Conceals menopausal symptoms

Maintains bone density

Risks

Cardiovascular(Arterial Venous)

Venous thromboembolism (DVT/PE)

Myocardial infarction

Stroke (Thrombotic/Haemorrhagic)

Hypertension

Breast cancer

HPV and Cervical cancer

Drosperinone COCP

Launched 2002

Less fluid retention, mood swings and breast tenderness

April 2010 MHRA guidance - incd VTE risk

More expensive so may be difficult to get on some formularies

Useful in PCOS acne PMS

Drovelis

24/4 28 pill pack

14.2mg Estetrol E4

3mg drosperinone

E4 activates nuclear ER but not Membrane ER

Less effect on breast and liver

Effective

Tolerability and safety same EE/LNG

Qlaira

Launched May 2009

Contains Estradiol valerate
E2 = natural oestrogen

Dienogest - good suppression of endometrial proliferation[1]

26/2 pill. Maintains stable E2 levels, optimises cycle control, inhibits ovulation

Fraser *Human Reprod* 2011 .

Potential for less metabolic impact than COCs with EE

Good cycle control and reduced blood loss

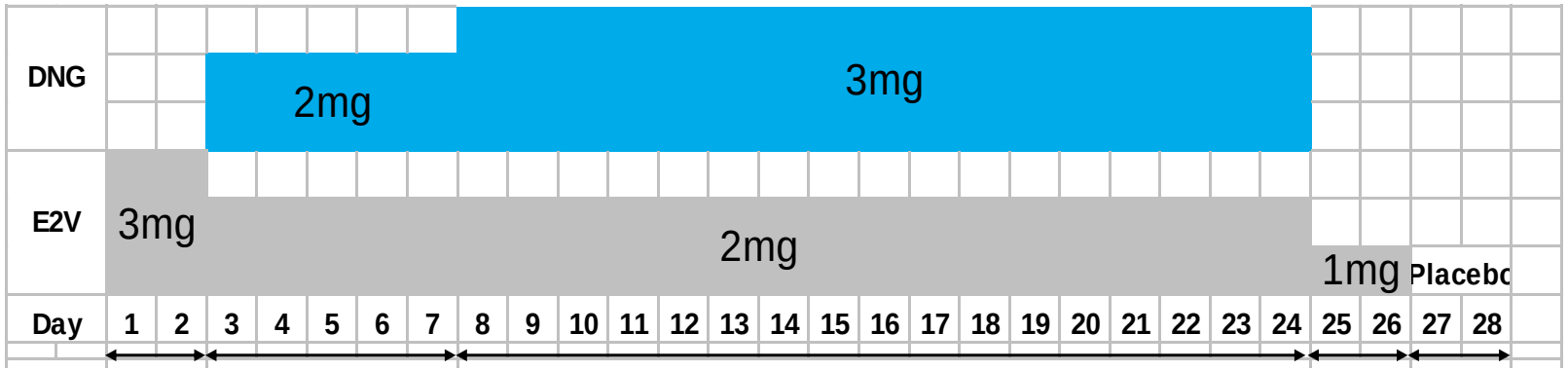
Licensed for heavy menstrual bleeding – reduction of 88%[1] but higher incidence of light breakthrough bleeding

Different regimen

Expensive

Over 35s
Uncomplicated diabetics
Women who request 'lowest dose'
Bleeding irregularly on POP
COCP with oestrogen withdrawal symptoms
Perimenopausal PMS
Menorrhagia declining IUS

Qlaira



oestrogen dominant

increasing progestogenic activity

oestrogen only

Zoely

2.5mg Nomegestrol acetate

1.5g Estradiol

24/4 regime with 4 placebo tablets

12hrs missed pill rule

?VTE figure

Useful in:

POI

Perimenopause

Tailored regimens

Cochrane review[1] – continuous dosing or extended regimes are a reasonable approach

Apply only to monophasic CHCs

Extended use – tricycling

Shortened pill-free interval 4/24

Extended use with shortened pill-free interval

Extended use with regular pill-free interval

[1]Edeleman et al Cochrane Database 2005

Emergency contraception

1 Progestogen emergency pill

2 Ulipristal acetate

3 Cu IUCD up to 5 days postcoital (or day 19)

Don’t forget the STI check in 2/52!

Consider ‘quick starting’ immediately after EC

Remember post coital IUCD most effective and should be offered to all

Progestogen only EC

Levonelle 1500

Available OTC as Levonelle One Step for >16s

Within 72 hours (the sooner the better)

Effective (95% if within 24hrs, 58% at 72hrs)

No effect once LH surge has started

No contraindications and no age limit

Low incidence of side-effects

May give up to 120 hours post UPSI if Cu IUCD unacceptable (out of licence)

Consider giving advance supply

Ulipristal

Launched September 2009

Contains 30mg ulipristal acetate

A synthetic selective progesterone receptor modulator

Licensed for 120 hours – no apparent decline in efficacy over time

No effect after LH peak

More effective than LNG but 3 x expense of LNG

Not available OTC

Breast feeding not recommended for 36 hours after use

May theoretically decrease action of COC and POP

If starting hormonal method, advise to use additional barrier contraception:

- CHC – 14 days
- Qlaira -16 days
- POP (both trad + cerazette) - 9 days

Cannot use with enzyme inducers PEP

Case 1

Age 23

BMI 30

Irregular menstrual cycle

PMS

Poor diet

Diary / app

Lifestyle

COCP

Drosperinone COCP

SSRI – sex

?risk STIs

Case 2

Age 35

Family complete

Increasing PMS

Increasing heavy menstrual bleeding

Mirena

Any COCP if no CI

POP

Implant

Case 3

Age 44

Regular cycle

Oestrogen deficiency symptoms

Any COCP if no CI

Qlaira Zoely Yasmin

Mirena E2 Patch

Cyclical HRT + barrier

Case 4

Age 52

Regular periods

Cyclical flushes

Cyclical hrt

Contraception!!

www.pms.org.uk

Thankyou

Resources

British Menopause Society
www.bms.org.uk

BMS
Meeting the challenge of menopause

Women's Health Concern
www.womens-health-concern.org

Women's Health Concern

Menopause Matters
www.menopausematters.co.uk

Menopause matters

DAISY *premature ovarian failure*
www.daisynetwork.org.uk

THE DAISY NETWORK®

NAPS *premenstrual syndrome*
www.pms.org.uk

Institute of Psychosexual medicine
www.ipm.org.uk

Institute of Psychosexual Medicine