

Contraceptive implants

Dawn Miller

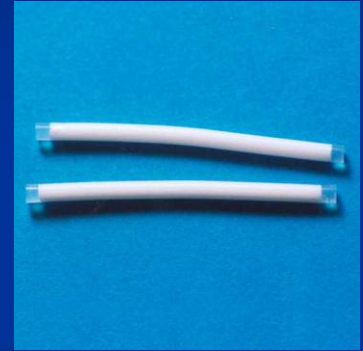
Department of Women's and Children's Health

Dunedin School of Medicine

and Dunedin Family Planning Clinic

Implants available in New Zealand

- **Jadelle:** 2 rods; subdermal placement in upper arm
 - levonorgestrel-releasing implant
 - provides contraception up to 5 years
 - fully subsidised on prescription in NZ



- **Implanon:** 1 rod; subdermal placement
 - releases etonorgestrel
 - provides contraception for up to 3 years
 - not subsidised in NZ (cost approx \$220)



NB Nexplanon with upgraded applicator and radiolucency is now available in UK.

Jadelle

■ Mode of action:

- suppresses ovulation, more effectively first 3-4 years
- thickens cervical mucus
- thins endometrium
- suppression of luteal phase progesterone

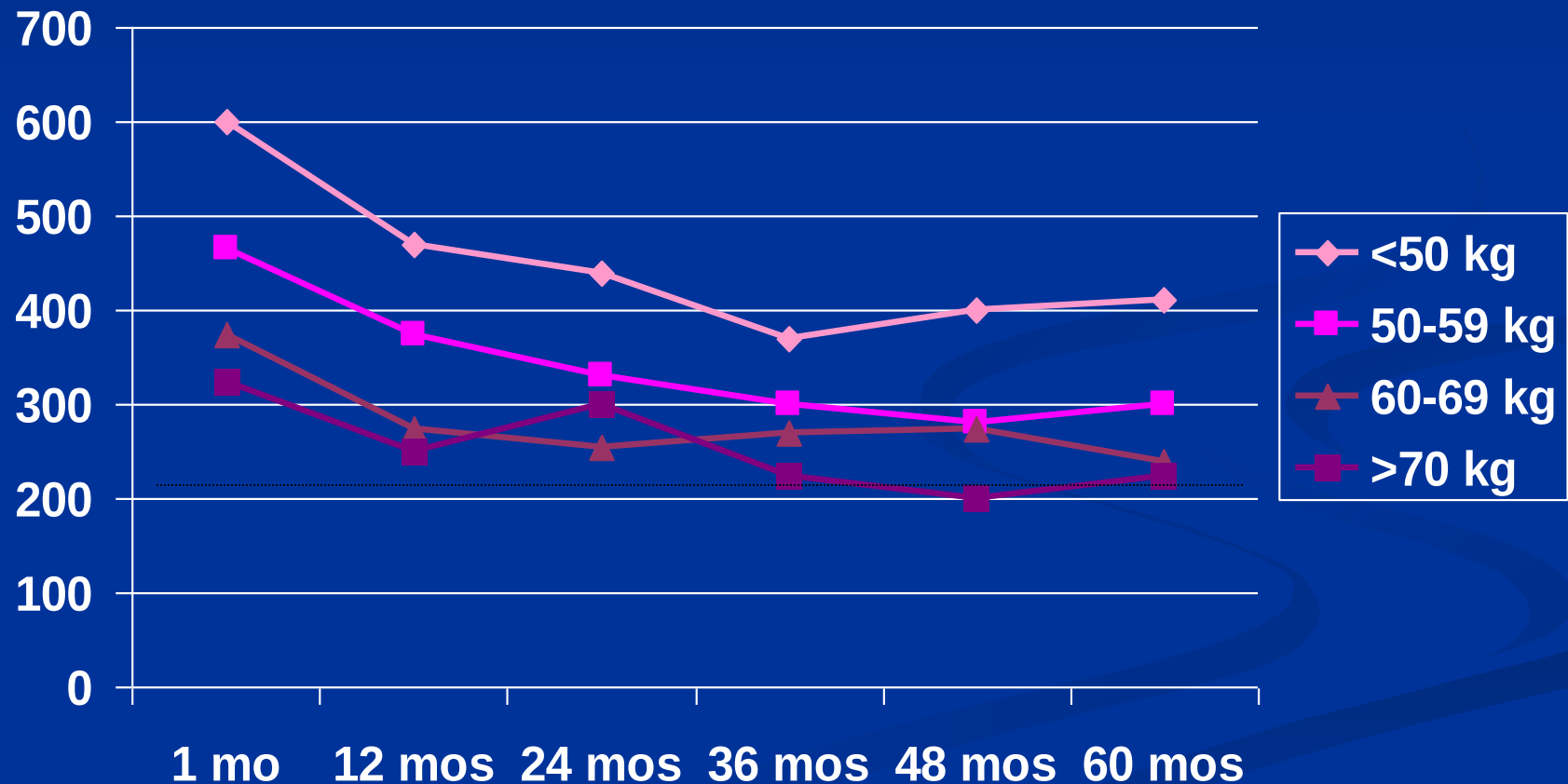
■ Failure rate:

- initially 0.2 per 100 woman years
- cumulative over 5 years 1.1/100 woman years
- failure rate higher after 4 years use, and with obesity
- ectopic pregnancy rate 0.03/100 woman years

Sivin 1998

Body weight and serum lng- concentrations

pg/mL



Sivin et al. 2001

Implanon

Mode of action:

- etonorgestrel secreted at adequate dose over the 3 years of use to reliably suppress ovulation throughout
- also thickens cervical mucus, thins endometrium

Failure rate:

- fewer than 1 per 1000 over 3 years though reported pregnancy rate higher from post marketing surveillance

NICE guidelines 2005

Risks of contraceptive implants:

Insertion risks

- subdermal implantation: removal difficulty if placed too deeply
- infection at insertion site

Note:

- Mild insulin resistance
- No apparent effect on bone mineral density though studies are small. Estrogen levels usually maintained.

(Cromer 1996)

- No effect on haemostasis or lipids

Contraindications for contraceptive implants:

Pregnancy

Irregular bleeding (before evaluation)

Active VTE, IHD, CVA

Breast cancer; liver cancer

Other steroid dependent tumour

Liver function abnormality

Drug interactions:

Implant contraindicated if using.....

Liver enzyme inducing medication

eg. many anticonvulsants

rifampicin, griseofulvin

Possible Side Effects:

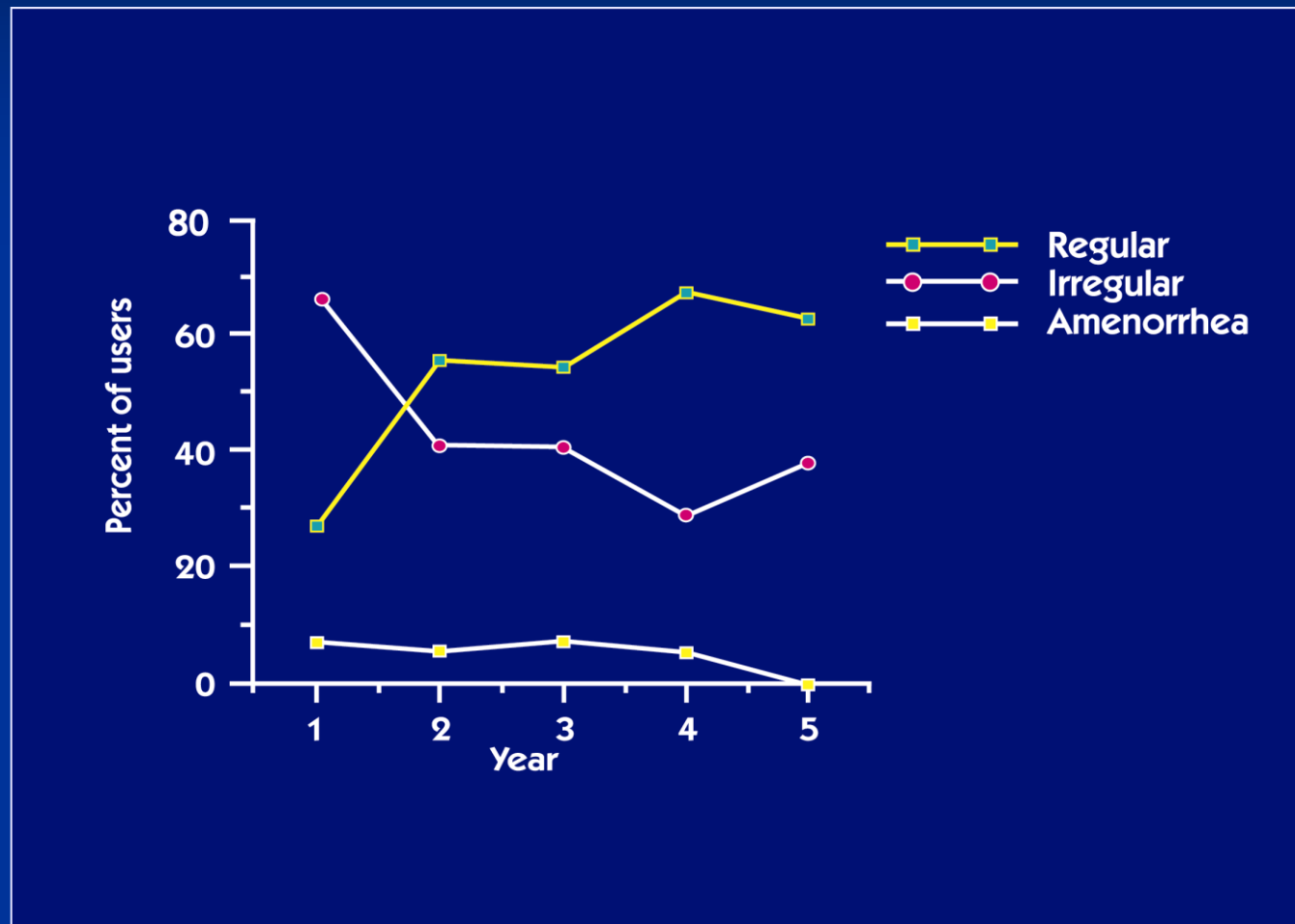
- irregular PV bleeding; amenorrhoea
- progestagenic effects: weight gain, low mood, low libido, headache, breast tenderness, acne
- scarring and pain at insertion/removal sites
- pelvic pain

.....

Weight:

- mean weight gain 0.7 kg per year over 5 years, ie. 3.5 kg over 5 years
- 20% lose weight

Bleeding pattern with Jadelle – Shoupe 1991



Side effects

Sivin et al 1998

	Mean annual rate (%)	Number who discontinued use (%)
Bleeding problem	Common	13.7
Acne	15.3	0.8
Weight gain	10.7	3.9
Leukorrhoea	10.1	0
Headache	9.7	2.2
Pelvic pain	9.6	0.8
Mood change	7.1	1.8
Pain at insertion site	4.8	0.4

Cumulative discontinuation/continuation of Jadelle over 5 years

Sivin et al 1998

<u>Reason for discontinuation</u>	%
Pregnancy	1.0
Menstrual problems	16.4
Medical problem	15.0
Planning pregnancy	14.7
Other	6.8
(Continuation rate)	(55.1%)

Timing of placement

- **Immediate contraception** if implant inserted :
 - in first 7 days after start of menstrual period**or** if other contraceptive method used for first 7 days after insertion
- **After pregnancy:**
 - if breast feeding wait 6 weeks
 - if not breast feeding wait 2 weeks
 - after TOP, miscarriage - immediate placement

Treatment for bleeding problems:

- 1) NSAIDs eg. Mefenamic acid 500mg bd for 5 days
- 2) Oestrogens as COC, or HRT eg. Premarin

References

- Sivin I, Alvarez F, Mishell DR Jr, Darney P, Wan L, Brache V, Lacarra M, Klaisle C, Stern J. Contraception with two levonorgestrel rod implants. A 5-year study in the United States and Dominican Republic. *Contraception* 1998; 58(5):275-82
- Sivin I, Wan L, Ranta S, Alvarez F, Brache V, Mishell DR Jr, Darney P, Biswas A, Diaz S, Kiriwat O, Anant MP, Klaisle C, Pavez M, Schechter J. Levonorgestrel concentrations during 7 years continuous use of Jadelle contraceptive implants. *Contraception*. 2001 Jul;64(1):43-9
- National Institute for Health and Clinical Excellence (NICE). Long-acting Reversible Contraception (Clinical Guideline 30). 2005.
<http://www.nice.org.uk/nicemed>
- Shoupe D, Mishell DR Jr, Bopp BL, Fielding M. The significance of bleeding patterns in Norplant implant users. *Obstet Gynaecol* 1991;77(2):256-60
- Cromer BA, Blair JM, Mahan JD, et al. A prospective comparison of bone density in adolescent girls receiving depot medroxyprogesterone acetate (Depo-Provera), levonorgestrel (Norplant), or oral contraceptives. *J Paediatrics* 1996;129(5):671-6

Recommended websites

- www.rcog.org.uk
- www.ffprhc.org Faculty of Family Planning and Reproductive Health Care
- www.fsrh.org Faculty of Sexual & Reproductive Healthcare

WHO websites:

- www.who.int/rhl/fertility/contraception/en/
- www.who.int/reproductive-health/ WHO's reproductive health website

Specific resources:

- • Medical eligibility criteria for contraceptive use. 4th ed. Geneva: Department of Reproductive Health and Research, World Health Organisation; 2010. Available from: www.who.int/reproductive-health/publications/mec/
- • Selected practice recommendations for contraceptive use. 2nd ed. Geneva: Department of Reproductive Health and Research, World Health Organisation; 2004. Available from: whqlibdoc.who.int/publications/2004/9241562846.pdf

Also:

www.fpanz.org.nz New Zealand Family Planning Association

www.medsafe.co.nz Medsafe New Zealand

www.nice.org.uk/Guidance/CG/Published

(Includes a review of long-acting reversible contraception.)

www.uptodate.com

(A useful resource if you are prepared to subscribe to it.)

- Guillebaud J. Contraception: your questions answered. 5th ed. Edinburgh: Churchill Livingstone; 2008.