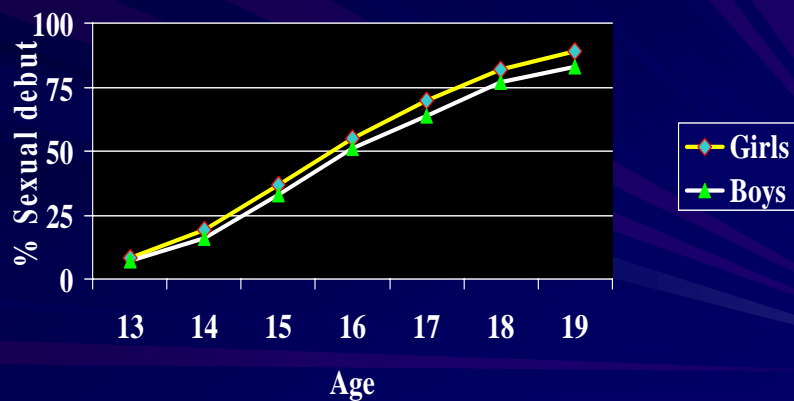


## Case 1

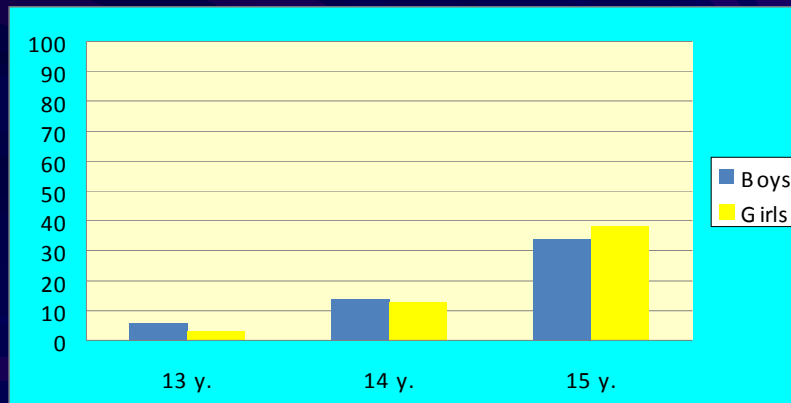
- 19 årig kvinde, der har taget P-piller (20 ug EE + 75 ug gestoden) i 3 måneder, henvender sig pga. (i) spotting ca. 4 dage pr. cyklus, (ii) vægtstigning på 3 kg. Hun vil gerne fortsætte med p-piller men er træt af bivirkningerne.

### Age of sexual debut among Danish teenagers 1997-98



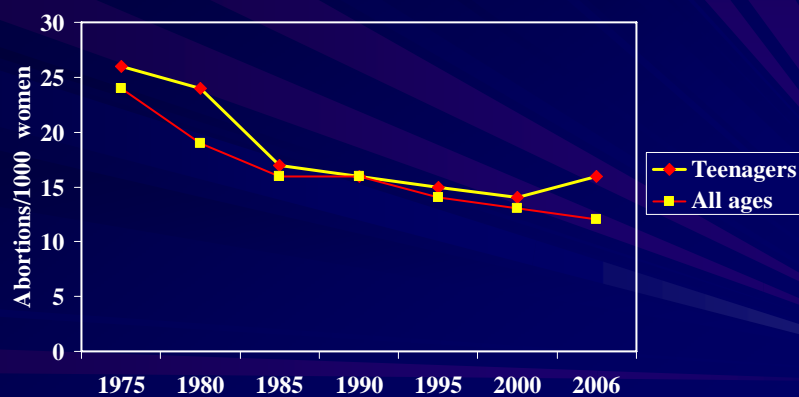
•Ung 99 - En seksuel profil - Forebyggelsessekretariatet Frederiksberg 1999

## Proportion of adolescents 13-15 y who have had sexual intercourse (n=1557)



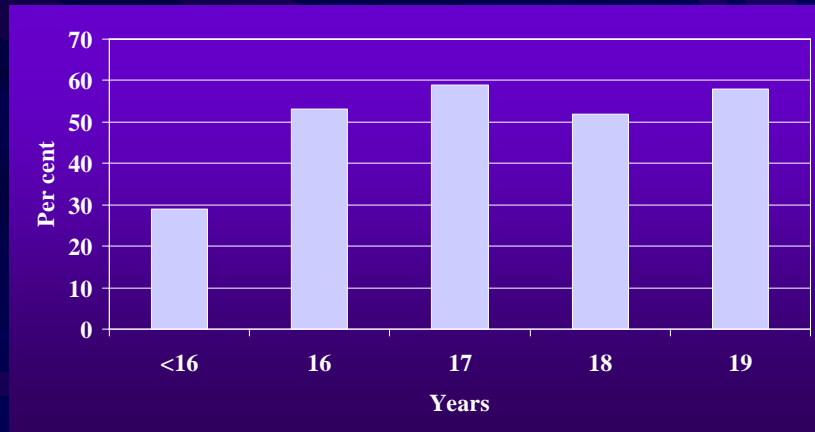
Sundhedsstyrelsen, 2004. 11-15 åriges livsstil og sundhedsvaner

## Legal abortions among Danish teenagers 1975-2006



•Sundhedsstyrelsen, 2007

## Proportion of Danish teenagers seeking legal abortion who did not use contraception



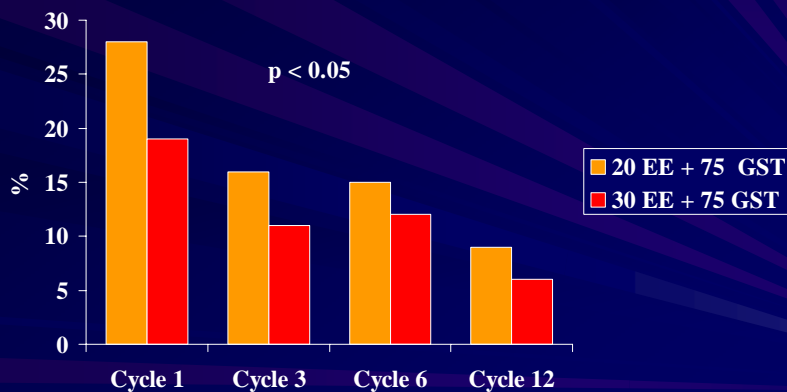
•Ung 99 - En seksuel profil - Forebyggelsessekretariatet Frederiksberg 1999

## Use of contraception in women seeking legal abortion

	Number	No contra- ception (%)	User failure (%)
Sørensen 1994	589	34	26
Hansen 1996	354	41	-
Andreasen 1996	831	32	33

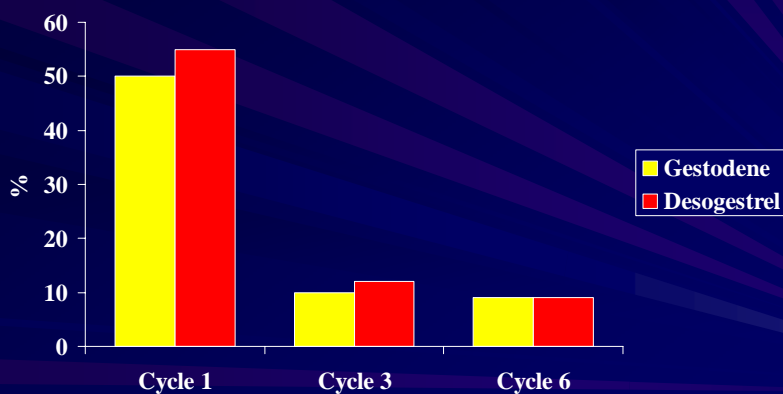
•Sørensen Ugeskr Læg 1994;156:4145  
 •Hansen Ugeskr Læg 1996;158:5773  
 •Andreasen Ugeskr Læg 1996;158:5928

## Bleeding and spotting during OC with different dose of EE



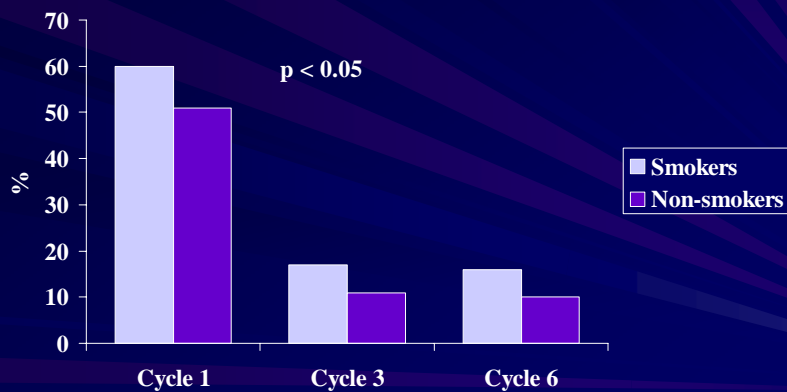
•Endrikat. Contraception 1997;55:131-7

## Bleeding and spotting during OC with same dose of EE but different progestogens



•Rosenberg. Contraception 1996;53:85

## Bleeding and spotting during OC - effect of smoking



•Rosenberg Am J Obstet Gynecol 1996;174:628-32

## Irregular bleeding during OC - suggested mechanisms

- Cervical ectopia
- Insufficient progestogen action on endometrial stroma: Fragile dilated veins, deficient in perivascular glucoproteins
- Insufficient estrogen action: Breakage of endometrial glandular lining, releasing extravasated blood into endometrial cavity.

## Irregular bleeding during OC - What to do ?

### **No controlled clinical studies !!**

Exclude organic cause

Stop smoking

Increase estrogen dose

Change to parenteral combined method

Change to multiphasic pills

Change gestagen

## Ring and patches

↗ Same contraindications as OCs

### ■ Patches:

■ 20 mcg EE + 150 NGT

■ 3 x 1 w. patch 1 w  
without

■ Pearls index < 1.5

■ Continuous use

### ■ Rings

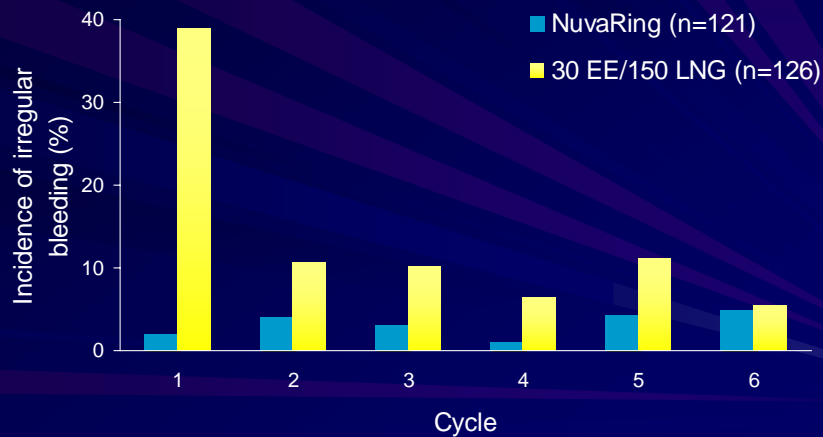
■ 15 mcg EE + 120 ETO

■ 3 w. ring 1 w without

■ Pearls index < 1

■ Can be removed for 3 h

## Irregular bleeding with NuvaRing Comparison with a COC



*Bjarnadóttir et al, Am J Obstet Gynecol, 2002;186:389-95*

## Common questions. Can the ring be felt ??

- 87 % of the women never/seldomly felt the ring during intercourse
- 74% of the partners never/seldomly felt the ring during intercourse
- 5% considered it a problem

*Dieben et al. Obstet Gynecol 2002;100:585-93*

# Do you gain weight during OC ?

Summary of rand. studies with a placebo group

Author	Month	Hormones	OC/Plac.	Outcome	Result
Goldzieher 1971	4	4 diff. High dose	322/76	OR of gain > 2.3 kg	NS (1,0-0,5)
Coney, 2001	6	20 EE, 150 LNG	359/362	Mean diff. in kg after 6 m	NS (0,3 kg)
Sibai, 2001	9	20 EE, 150 NGT(patch)	92/44	OR of gain > 5 %	1,0

Gallo. Obstet Gynecol;2004;103:359-73

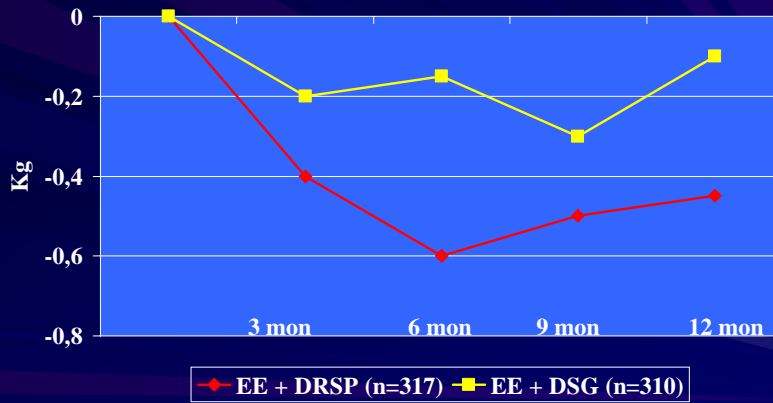
## Weight gain during OC ? 12 months follow up

- 20 mcg EE + 75 mcg gestodene
- n = 428
- 13 % lost more than 2 kg
- 16 % gained more than 2 kg
- 71 % unchanged

- 30 mcg EE + 75 mcg gestodene
- n = 221
- 12 % lost more than 2 kg
- 15 % gained more than 2 kg
- 73 % unchanged

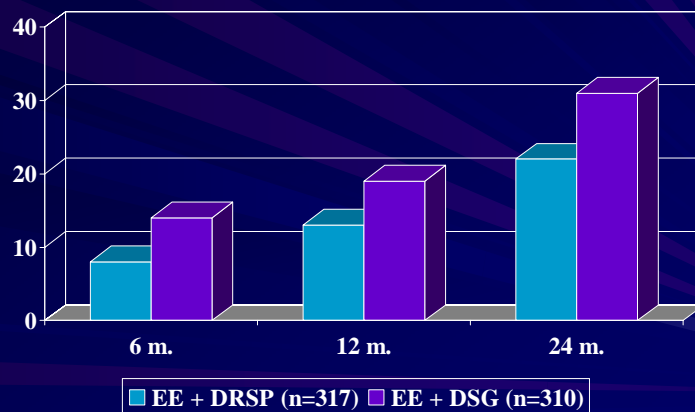
•Endrikat. Contraception 1997;55;131

## Mean weight change during intake of EE with Drospirenone or Desogestrel



Hubert, Eur J Contracep Reprod Health 2000;5:25

## Women gaining more that 2 kg



Foidart, Eur J Contracep Reprod Health 2000;5:124

## Combination contraceptives: Effects on weight. Cochrane Database Review 2008 Oct 8

Gallo et al

- The three placebo-controlled trials did not find evidence supporting a causal association between CC and weight gain
- Most comparisons between different combinations showed no substantial difference
- Discontinuation of CC because of weight gain did not differ between groups when studied
- Available evidence was insufficient to determine the effect of combination contraceptives on weight, but no large effect was evident

## Birth control in adolescents

What about IUDs ????

## No. of publications comparing 12-months event rate for nullips and parous women

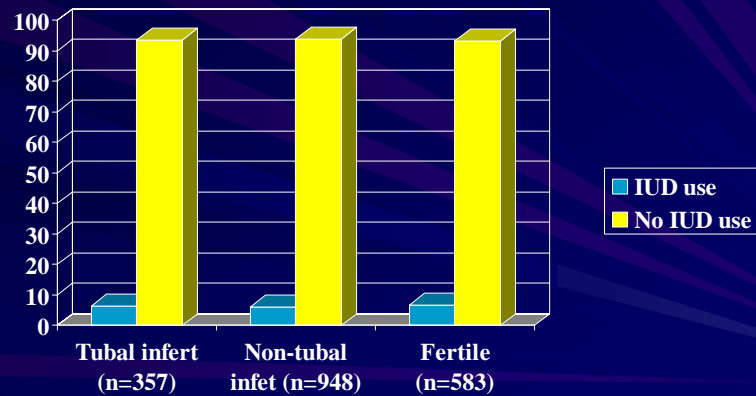
IUD	No of studies	Expulsions		Bleeding and pain	
		Nullips	Parous	Nullips	Parous
Cu7	4	++++		+++	+
T-200	4	++	+	++++	
T-200	1	+			+
T-380	1	+			
Nova-T	4	+	++	++++	
ML-250	2	+		++	
ML-375	3	++	+	++	
GyneFix	1	+			+
<b>Total</b>	<b>20</b>	<b>13</b>	<b>4</b>	<b>15</b>	<b>3</b>

Hubacher. Contraception 2007;75:S8-S11

## IUDs in nulliparous women

	Wiener 1978 (n=226, 6 months)	Skouby 1981 (n=120, 12 month)	Petersen 1991 (n=236, 12 month)
<b>Termination (%)</b>			
Expulsion	12	7	10
Bleeding/pain	5	14	13
Pregnancy	2	2	0
PID	2	6	9
Personal	0	6	3
<b>Continuation</b>	<b>79</b>	<b>66</b>	<b>65</b>

## Proportion of women with tubal infertility, non-tubal infertility and fertile women who had used IUDs



Hubacher. N Engl J Med 2004;345:561-67

## 1 year clinical performance of OCs and LNG-IUDs in nullips – a randomized study

	OC (n=99)	LNG-IUD (n=94)
Pain	0	6,7*
Hormonal	9,8	4,9
Bleeding/spotting	1,3	2,5
Expulsion	NA	1,2
Other medical	1,1	2,1
Pl. pregnancy	2,6	0
Personal	15,4	4,6*
<b>Cont. rate</b>	<b>72,7</b>	<b>79,8</b>

Suhonen. Contraception 2004;69:407-12

## Progestogen injectables and implants.

### Progestogen type:

Medroxyprogesterone acetate (Depo-Provera)  
Etonorgestrel (desogestrel, Implanon)

### Mode of action:

Inhibition of ovulation (blocks LH-peak)  
Minor effects on FSH (E2 level at early follicular level)  
Effects on cervical mucus and endometrium

### Side effects.

Unpredictable, anovulatory bleeding pattern  
Amenore (after 2 y. with Implanon: 20%, Depo-Provera: 60%)

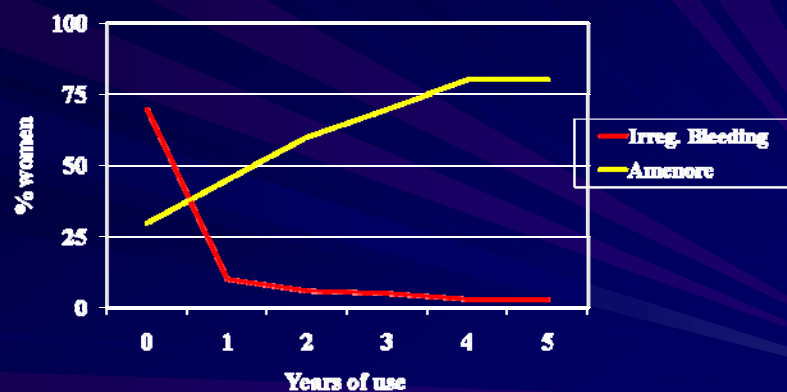
## Etonorgestrel implant Contraceptive effect

- At registration
- 73429 cycles
- No pregnancies
  
- Latest report\*:
- 218 pregnancies in 205.000 insertions
- 13 directly method related

## Etonogestrel Implant Bleeding pattern - 2 years

- 21%: amennorrhoe
- 26%: infrequent bleeding
- 6%: frequent bleeding
- 12 %: prolonged bleeding

## Blødningsmønster ved langtidsbrug af Depo-Provera



Speroff 1999

## Hypoøstrogenicitet og Depo-Provera – effekt på knoglerne ??

- 2004: FDA Black Box warning: Kvinder på DP kan miste bone mineral density
- Kvinder skal kun anvende DP i mere end to år, hvis andre midler ikke er tilrådelige (advisable).
- **Facts:**
  - Reduktion på mindre end 1 % of BMD pr. år. – sandsynligvis reversibelt.
  - ACOG, WHO, Society of Adolescent Medicine:
  - Ingen restriktioner hos voksne.
  - Blandt unge piger vejer risikoen for uplanlagt svangerskab betydeligt højere end den teoretiske risiko for frakturer senere i livet.

## Emergency contraception Mode of action

- LNG (+EE): Inhibition of ovulation.  
Inhibition of implantation ?
- Mifepriston: Inhibition of ovulation and implantation
- IUD: Inhibition of implantation

## Hormonal emergency contraception

No medical contraindications

Secure effective contraception

Pregnancy test after 3 w.

## IUDs in nulliparous women

	Wiener 1978 (n=226, 6 months)	Skouby 1981 (n=120, 12 month)	Petersen 1991 (n=236, 12 month)
<b>Termination (%)</b>			
Expulsion	12	7	10
Bleeding/pain	5	14	13
Pregnancy	2	2	0
PID	2	6	9
Personal	0	6	3
<b>Continuation</b>	<b>79</b>	<b>66</b>	<b>65</b>

## Gyne-Fix in nulligravid and parous women 3 years cumulative event rate

Termination (%)	Nulligravid (n=78)	Parous (n=133)
Expulsion	0.9	0.6
Bleeding/pain	1.2	4.9
Pregnancy	1.4	0
PID	1.2	0.2
Personal	27	7.3
Continuation	68.3	87.6

•Wildemeersch. Ann NY Acad Sci 1997;816:440

## IUDs in nulliparous women - are smaller IUDs better ?

	Adverse events (%)	No adverse events (%)
IUD > Ut. cav	39	61
IUD < Ut. cav	29	71

•Petersen KR et al Adv. Contracept 1991