

# Immediate LARC after medical abortion



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UNIVERSITY OF HELSINKI

# Oskari Heikinheimo Conflicts of interest

## Employed by

- University of Helsinki
- Hospital District of Helsinki and Uusimaa

## Lectures, ad-board memberships

- Bayer AG
- Gedeon Richter

## Chairmanships

- Nordic Federation of Societies of Obstetrics and Gynecology

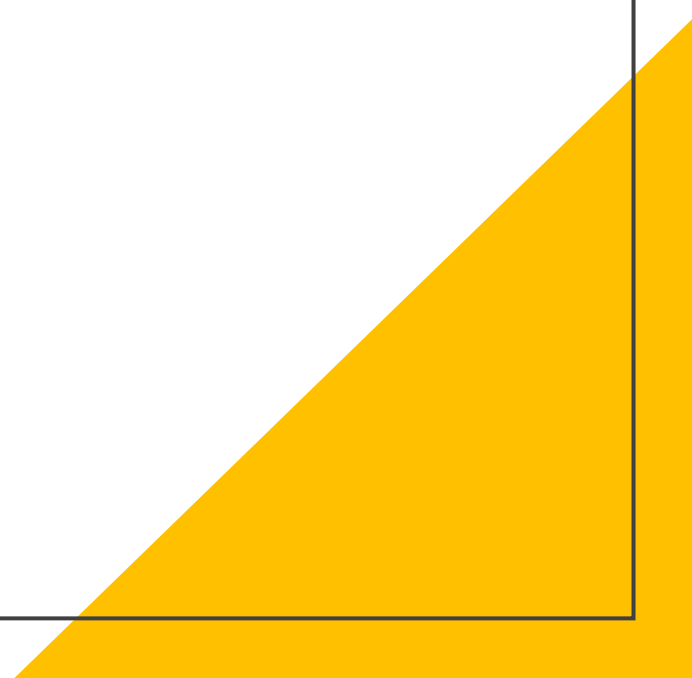
# Outline of the talk

- Long-acting reversible contraception in post-abortion contraception
  - Efficacy
  - When to start?
- Current recommendations
  - WHO 2022
- Long-term effects of postabortal IUD contraception on
  - The need of subsequent abortion
  - Miscarriage
  - Delivery
- Current figures on post-abortion LARC use
- Summary & conclusions



# Factors affecting real life contraceptive efficacy

*Steiner et al., Ob&Gyn 1996*

- Capacity to conceive
  - Frequency & timing of intercourse
  - Degree of compliance with the method
  - Efficacy of the method
- 
- A yellow triangular graphic is located in the bottom right corner of the slide, pointing upwards and to the left.

Multiple risk factors for the need of subsequent abortion..

## Risk factors for subsequent abortion can be recognized

- Young age
- Parity
- Previous abortion
  - Previous second trimester abortion!
- Regular smoking

## Contraceptive choices make a difference

- Postponing contraceptive initiation - risk ↑
- Use of intrauterine contraception - risk ↓

# IUD/IUS reduces the need of subsequent abortion – similar results from different continents

Authors	Country	Risk of repeat abortion	Reference
Goodman <i>et al.</i>	USA	<b>HR 0.38</b> [0.27-0.53] IUD / IUS <i>vs</i> non-IUD contraception	Contraception 2008, 78: 143
Heikinheimo <i>et al.</i>	Finland	<b>HR 0.33</b> [0.16-0.7] Cu-IUD <b>HR 0.38</b> [0.18-0.83] LNG-IUS <i>vs</i> COC	Contraception 2008, 78: 149
Roberts <i>et al.</i>	New Zealand	<b>OR 0.3</b> [0.2-0.5] IUD <i>vs</i> COC	Contraception 2010, 82: 260
Rose and Lawton	New Zealand	<b>HR 0.36</b> [0.17-0.77] IUCD <i>vs</i> OC	Am J Obst Gynecol 2012, 206: e1

## Immediate post-abortal insertion of intrauterine devices

Grimes et al., 2010 and Okusanya et al.,  
2014

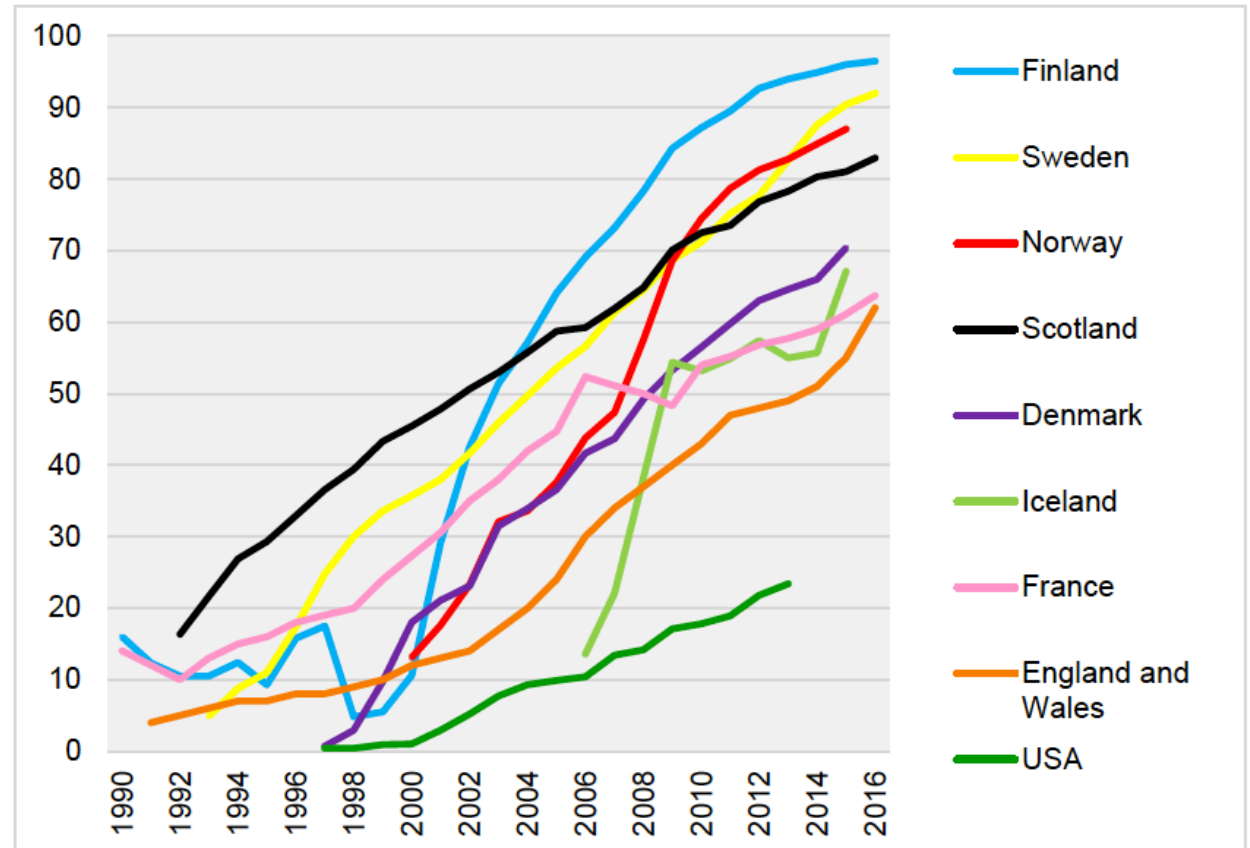
- **Immediate vs delayed insertion of IUD in surgical abortion – conclusions**
  - Immediate insertion is safe and practical
    - Similar risk of genital infection
  - Expulsion (RR 2.9 [95%CI 1.3-6.7]) and removal (2 [1.0-4.0]) rates higher following immediate postabortal insertion
  - IUD use is higher at 6 mo following immediate insertion (1.4 [1.2-1.6])



**THE COCHRANE  
COLLABORATION®**

Medical abortion  
is taking over in  
many countries...

- *Riina Korjamo, 2018*





## Immediate vs. delayed insertion of the ETN-releasing contraceptive implant

Hognert et al., 2016

- Immediate (within 1h after mifepristone) vs. delayed (i.e. 2-4 weeks) insertion of the contraceptive implant after 1<sup>st</sup> trimester medical abortion
  - A randomized multicenter trial of 551 (275 vs. 249) women

	Immediate	Delayed	P-value
<b>Efficacy of medical abortion</b>	<b>94.2%</b>	<b>96%</b>	<b>n.s.</b>
<b>% receiving the implant</b>	<b>98.9%</b>	<b>71.6%</b>	<b>&lt;0.001</b>
<b>Implant use at 6 mo</b>	<b>71.8%</b>	<b>57.9%</b>	<b>&lt;0.001</b>
<b>Subsequent abortion by 6 mo</b>	<b>0.8%</b>	<b>3.8%</b>	<b>0.018</b>

## Effect of immediate compared with delayed insertion of ETN implant on medical abortion efficacy and repeat pregnancy

Raymond et al., 2016

- Immediate vs. delayed (i.e. when abortion complete [within 31 days]) insertion of the contraceptive implant after outpatient medical abortion
  - A randomized multicenter trial of 476 (240 vs. 236) women from USA and Mexico

	Quickstart	Afterstart	P-value
Need of surgery	3.9%	3.9%	n.s.
Satisfied with the group	79%	54%	<0.001
Received the implant	100%	83%	<0.001
Pregnancy within 6 mo	0.5%	1.4%	n.s.

# Fast-track/immediate vs delayed insertion of the LNG-IUS after medical abortion

- Randomized comparison of early ( $\leq 3$ d [n=134]) vs delayed (2-4 weeks [n=133]) of LNG-IUS after medical abortion
  - Early I trimester ( $\leq 9$  weeks)
  - Late I trim + II trimester ( $\leq 20$  weeks)
- **Primary outcome - Rate of expulsion**
- **Secondary outcomes - Adverse events, bleeding patterns, continuation and new pregnancies up 1 year.**



Fast-track vs. delayed insertion of the levonorgestrel-releasing intrauterine system after early medical abortion — a randomized trial

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Received 13 February 2017; revised 18 July 2017; accepted 23 July 2017

**Expulsions and adverse events following immediate and later insertion of a levonorgestrel-releasing intrauterine system after medical termination of late first- and second-trimester pregnancy: a randomised controlled trial**

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Department of Obstetrics and Gynaecology, University of Helsinki and Helsinki University Hospital, Helsinki, Finland  
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Accepted 30 June 2017. Published Online 16 August 2017.

**Immediate versus delayed initiation of the levonorgestrel-releasing intrauterine system following medical termination of pregnancy – 1 year continuation rates: a randomised controlled trial**

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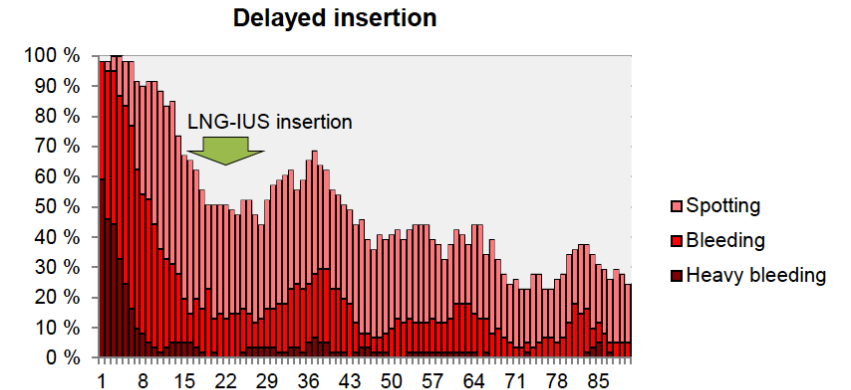
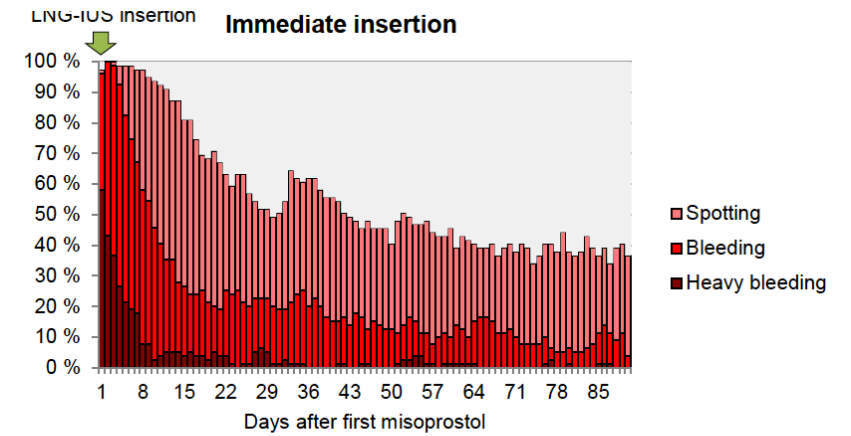
Accepted 19 June 2017. Published Online 2 August 2017.

## Fast-track/immediate vs delayed insertion of the LNG-IUS after medical abortion

	Fast track	Delayed	RR (95%CI)	P-value
<b>Insertion</b>	95.5%	84.7%	1.13 (1.04–1.22)	0.004
<b>Expulsion (total or partial) by 3 mo</b>	20.7%	4.0%	5.22 (1.88–14.55)	
<b>Verified IUS use at 3 mo</b>	72.2%	57.3%	1.26 (1.05–1.51)	0.014
<b>Verified IUS use at 1y</b>	62.4%	39.7%	1.57 (1.23–2.02)	<0.001
<b>New pregnancy by 1y</b>	4.5%	12.2%	0.37 (0.15–0.91)	0.027

# Adverse events and bleeding profiles following immediate vs delayed insertion of the LNG-IUS after medical abortion

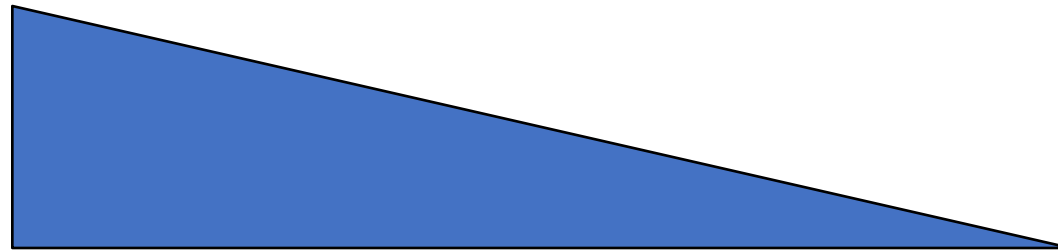
- **No difference in the rates of:**
  - Residual tissue
    - **5.3 vs 11.5%** (RR 0.46 [0.19–1.09])
  - Early surgical operation
    - **6.8 vs 6.1%** (RR 1.11 [0.44–2.78])
  - Infection
    - **12.8 vs 9.2%** (RR 1.40 [0.69–2.81])
  - Bleeding
    - **6.0 vs 11.5%** (RR 0.53 [0.23–1.20])
  - Any problem
    - **24.1 vs 29.0%** (RR 0.83 [0.55–1.24])
  - Various parameters of the initial 90-day bleeding profiles
- **Safe to provide IUD early after medical abortion**



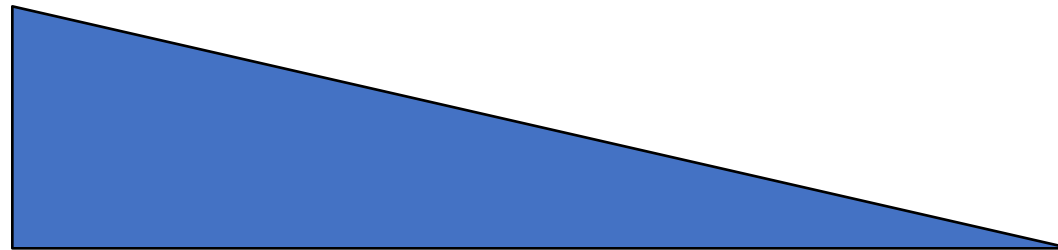
# Fast track/immediate vs delayed initiation of IUD contraception after medical abortion

Probability of

- Expulsion



- Initiation



*Fast track/immediate insertion* ... *Delayed*

**More IUD users at 1-year after fast track/immediate insertion!**

# Placement of an intrauterine device within 48h after early medical abortion

*Hogmark et al., 2022 Am J Obst & Gyn*

- Randomized multicenter comparison of IUD insertion within 48h vs 2-4 weeks after up to 9 weeks medical abortion
  - Performed in Sweden
  - 120 + 120 women
  - Both LNG-IUD and Cu-IUD used
  - Pragmatic study, i.e. minimal use of ultrasonography
- Main outcome - IUD use at 6 mo

	<48h	2-4 w	P-value
IUD use at 6 mo	82%	78%	n.s.
Pain VAS at insertion	32±29	43±28	0.002
Satisfied with timing	75%	61%	0.03
Clinical expulsion by 6 mo	9.3%	4.5%	n.s.

No perforations or infections requiring antibiotic treatment.

# WHO guideline 2022

## Recommendation 43: Timing of contraception and medical abortion

For individuals undergoing medical abortion with the combination mifepristone and misoprostol regimen or with misoprostol alone:

For those who choose to use **hormonal contraception** (pills, patch, ring, implant or injections): **Suggest** that they be given the option of starting hormonal contraception immediately after the first pill of the medical abortion regimen.

For those who choose to have an **IUD** inserted: **Suggest** IUD placement at the time that success of the abortion procedure is determined.



# When to start contraception after medical abortion?

- Strategies modified according to different service provision

	DAY OF		Within the 1 <sup>st</sup> weeks
	Mifepristone administration	Misoprostol administration	
<b>CHC/POP</b>		<b>+</b>	<b>(+)</b>
<b>Implant</b>	<b>+</b>	<b>+</b>	<b>+</b>
<b>DMPA</b>	<b>(+)</b>	<b>+</b>	<b>+</b>
<b>IUD/IUS</b>		<b>(+)</b>	<b>+</b>

# Immediate/early initiation of LARC in post-abortal contraception – a win-win strategy

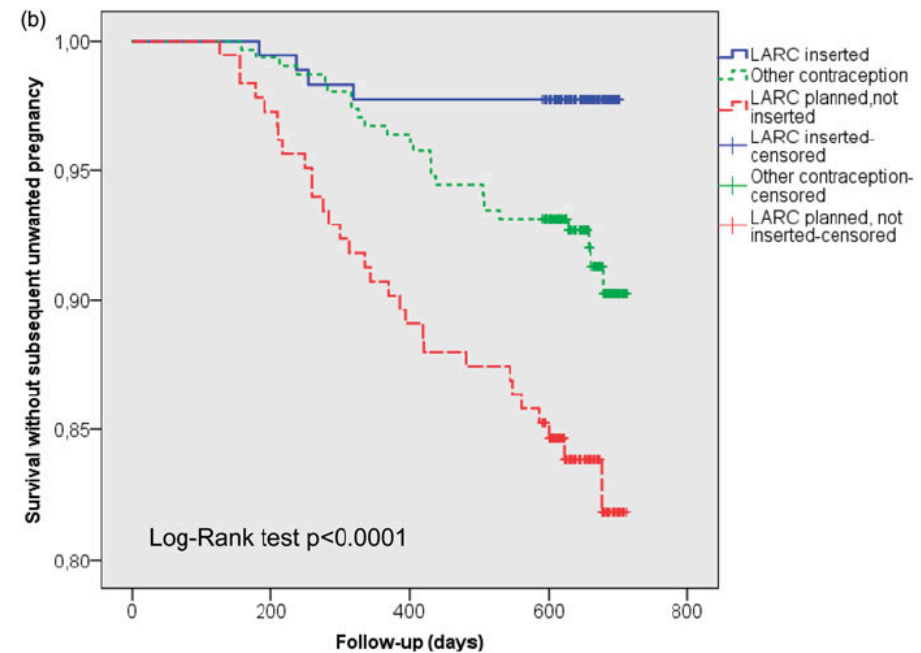
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	<b>Immediate/early</b>	<b>Delayed</b>
<b>Patient satisfaction</b>	Optimal	Decreased
<b>Uptake of the method</b>	High	Lower
<b>Compliance during follow-up</b>	Optimal	Decreased
<b>Need of additional visits</b>	Not needed	Needed
<b>Need of repeat TOP</b>	Low	Higher in some studies
<b>Cost efficacy</b>	Optimal	Decreased

# Only started - not planned - LARC prevents subsequent abortion

Korjamo et al., Eur J Contraception & Reprod Health Care, 2018

- Analysis of 666 women requesting TOP between Jan-May 2013
- All women had an opportunity to receive free LNG-IUS as part of RTC
  - 159 participated, 507 did not
  - Some (n=36) provided with LARC at hospital
  - Remaining women were prescribed OCs with further contraceptive provision in the primary health care
- Follow-up by means of the Finnish abortion registry



**What and how you provide for postabortion contraception makes the difference!**

# The KIEKU-study

## - the five-year results of the primary outcome published in 2020

Human Reproduction, pp. 1–9, 2020  
doi:10.1093/humrep/deaa031

human  
reproduction

ORIGINAL ARTICLE *Fertility control*

## Early provision of intrauterine contraception as part of abortion care—5-year results of a randomised controlled trial

Elina Pohjoranta<sup>1</sup>, Satu Suhonen<sup>3</sup>, Mika Gissler<sup>2,4</sup>, Pirjo Ikonen<sup>1</sup>,  
Maarit Mentula<sup>1</sup>, and Oskari Heikinheimo<sup>1,\*</sup>

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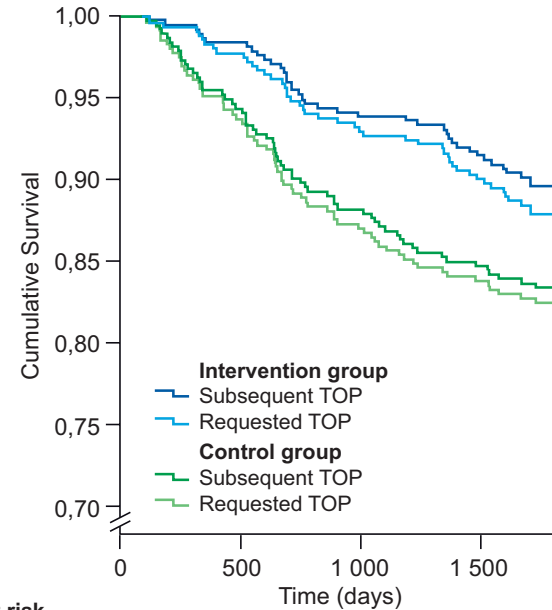
\*Correspondence address. Department of Obstetrics and Gynaecology, Helsinki University Hospital, PO Box 140, 00029-HUS, Helsinki, Finland. E-mail: oskari.heikinheimo@helsinki.fi

Submitted on December 22, 2019; resubmitted on January 31, 2020; editorial decision on February 9, 2020

**STUDY QUESTION:** Can the incidence of subsequent termination of pregnancy (TOP) be reduced by providing intrauterine contraception as part of the abortion service?

**SUMMARY ANSWER:** Provision of an intrauterine device (IUD) as part of TOP services reduced the need for subsequent TOP but the effect was limited to the first 3 years of the 5-year follow-up.

**WHAT IS KNOWN ALREADY:** An IUD is highly effective in preventing subsequent TOP. Prompt initiation of IUD use leads to a higher usage rate during follow-up, as compliance with post-TOP IUD insertion visits is low.



Number at risk

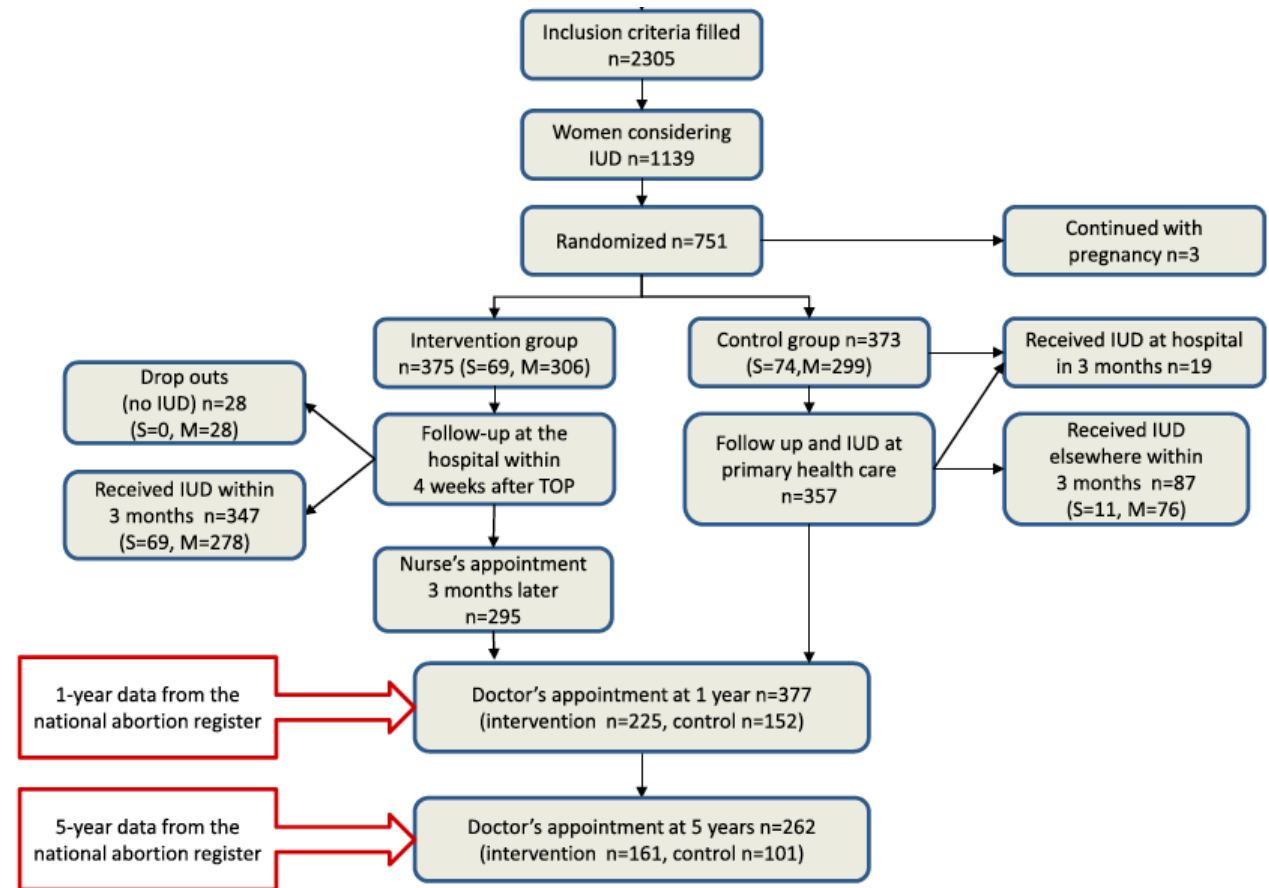
Intervention group				
Subsequent TOP	375	369	352	343
Requested TOP	375	367	349	338
Control group				
Subsequent TOP	373	352	329	316
Requested TOP	373	350	325	313

Subsequent TOP: HR 1,67 (CI 95% 1,13–2,49); p=0,011.

Requested TOP: HR 1,52 (CI 95% 1,04–2,22); p=0,029.

# KIEKU-trial – the primary outcome

- 751 women seeking early induced abortion between X/2010 and I/2013 and interested in IUD-contraception were randomized into
  - Intervention (n=375) group provided with a Cu-IUD/LNG-IUS within 1-4 weeks at the hospital responsible for abortion care**
  - Control group (n=373) group provided with oral contraceptives for interval contraception and directed to primary health care services for IUD provision**
- By 3 months**
  - 93% of the intervention**
  - 25% of the control group had received an IUD/IUS**
- Follow-up for five years**
- The subsequent induced abortions were identified from the Finnish national registry on Induced abortion



# KIEKU-trial – the primary outcome

- Altogether 40 (10.7%) women in the intervention and 63 (16.9%) in the control group underwent  $\geq 1$  subsequent TOP(s) (HR 1.67 [CI 95% 1.13 to 2.49],  $p=0.011$ ).
- The mean time interval between the index and the first subsequent TOP was 973 days (SD 494 days) in the intervention, and 742 days (SD 455 days) in the control group ( $p=0.013$ ).

Figure 3A. Rate of subsequent TOP during five-year follow-up (/1000 years of follow-up).

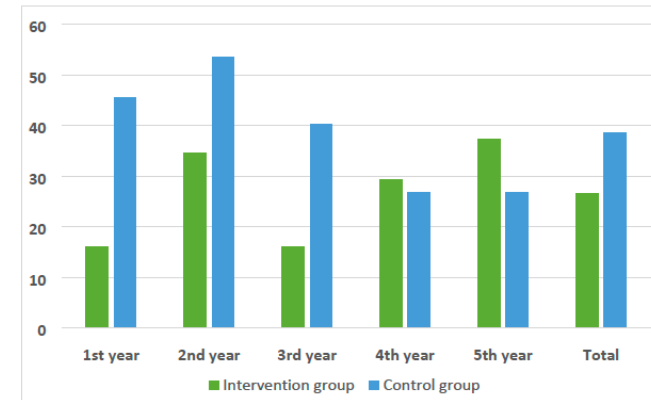
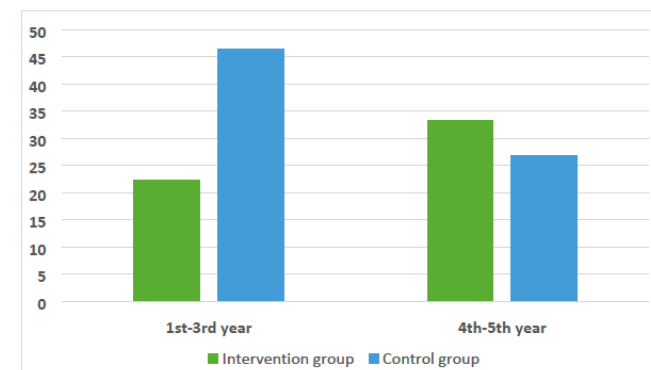


Figure 3B. Average rate of subsequent TOP during five-year follow-up (/1000 years of follow-up).



# Secondary analysis of the KIEKU study

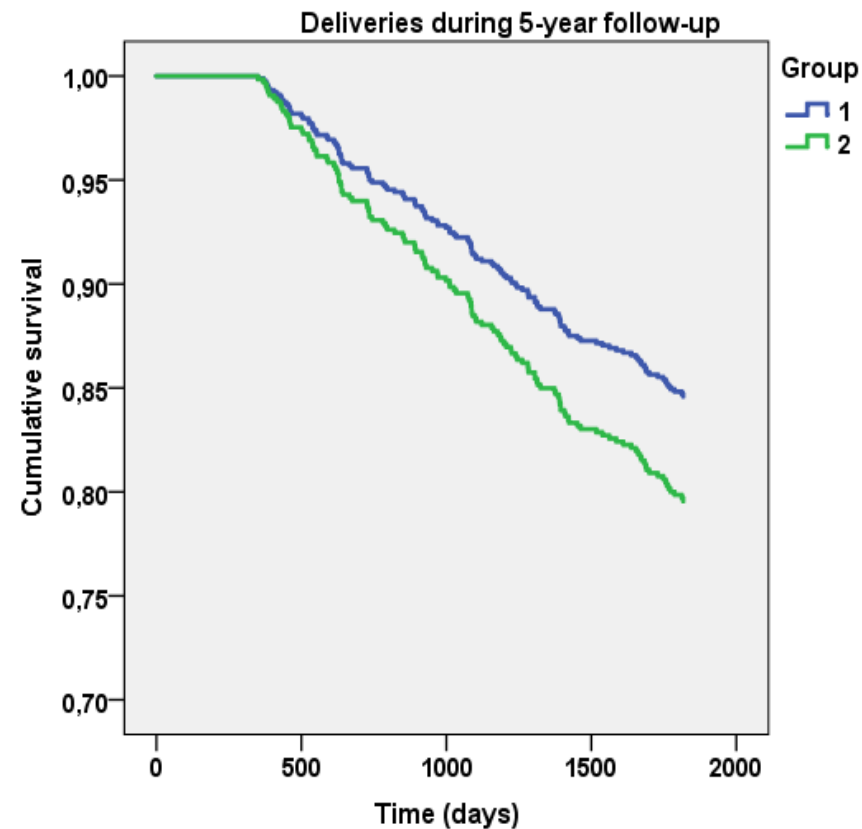
What is the effect of routine post-abortal IUD provision on:

- The incidence of delivery
- The incidence of miscarriage

Follow-up for 5 years by means of:

- Patient follow-up
- Care Register for Health Care\*
- Medical Birth Registry\*
  - \* maintained by the Finnish Institute for Health and Welfare

# Routine IUD provision at the time of induced abortion – effect on the incidence of delivery



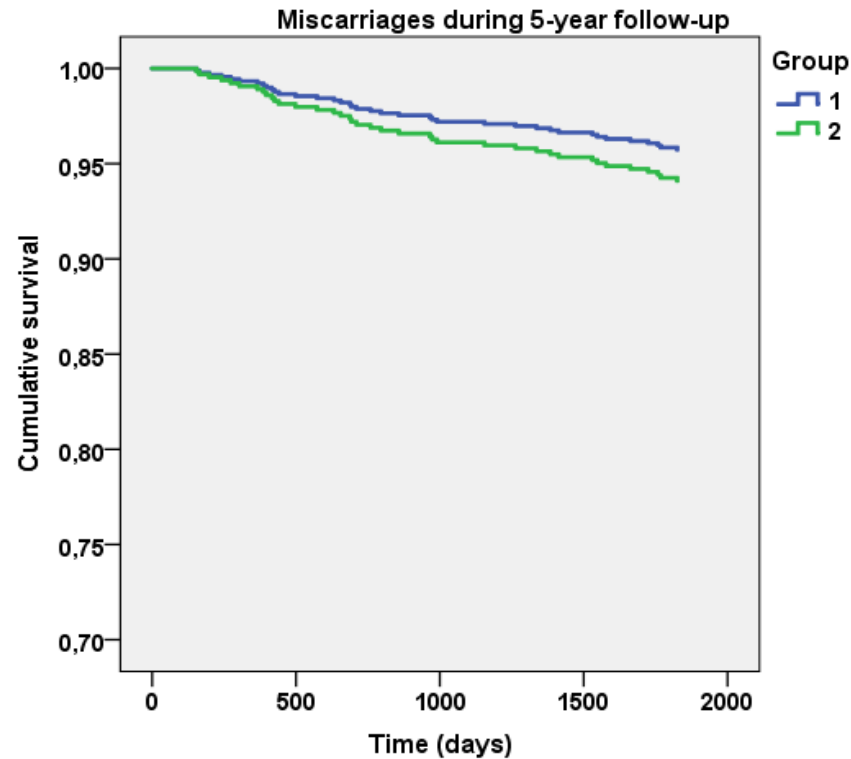
## Number of women with delivery (n[%]) and the overall number of deliveries

	Intervention group (n=375)	Control group (n=373)	Total (n=748)	p
Women with delivery	58 (15.5)	76 (20.4)	134 (17.9)	0.072
Number of deliveries	71	89	160	0.100

The time between the index abortion and the first delivery was 1073 days (SD 402) in the intervention and 1014 (SD 456,  $p=0.438$ ) in the control group.



# Routine IUD provision at the time of induced abortion – effect on the incidence of miscarriage



## Number of women with miscarriage (n[%]) and the overall number of miscarriages

	Intervention group (n=375)	Control group (n=373)	Total (n=748)	p
Women with miscarriage	16 (4.3)	22 (5.9)	38 (5.1)	0.312
Number of miscarriages	20	27	47	0.283

Time between the index abortion and the first miscarriage was 824 (SD 629) days in the intervention and 794 (573) in the control group ( $p=0.872$ ).

## Summary and conclusions

Routine provision of IUD to women undergoing an induced abortion is an effective means to reduce the need of subsequent abortion. This effect was limited to first 3 years after the index abortion.

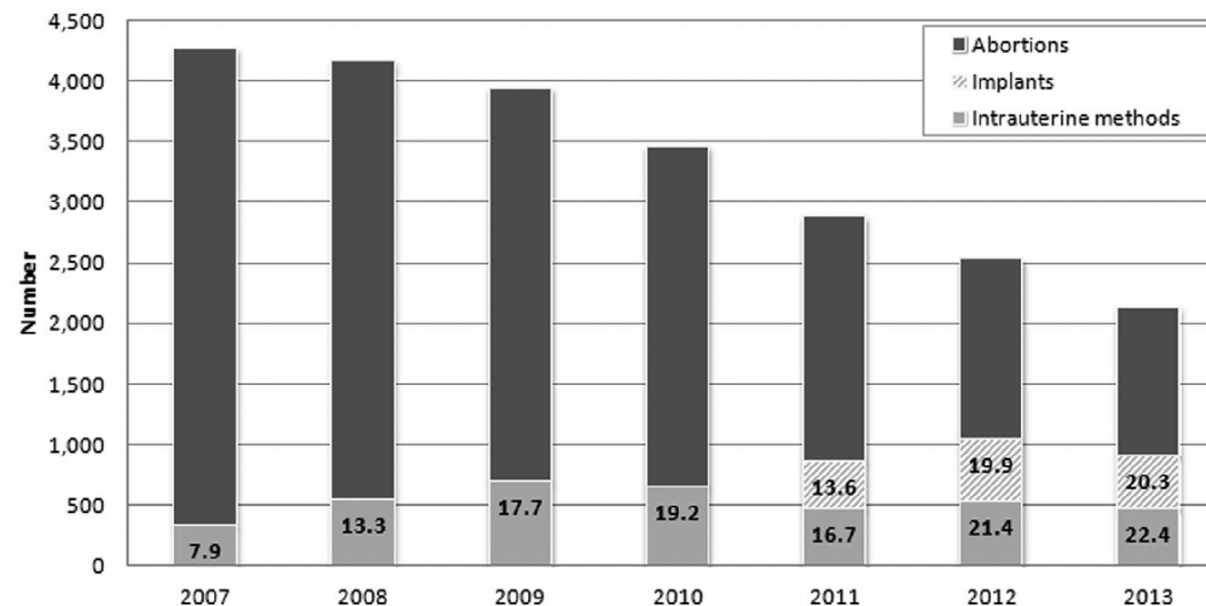
The time to next induced abortion was prolonged.

**The number nor the timing of subsequent deliveries or miscarriages were not significantly affected during a five-year follow-up.**

## Post-abortion initiation of LARC by adolescent and nulliparous women in New Zealand

Rose & Garrett, J Adolescent Health 2016

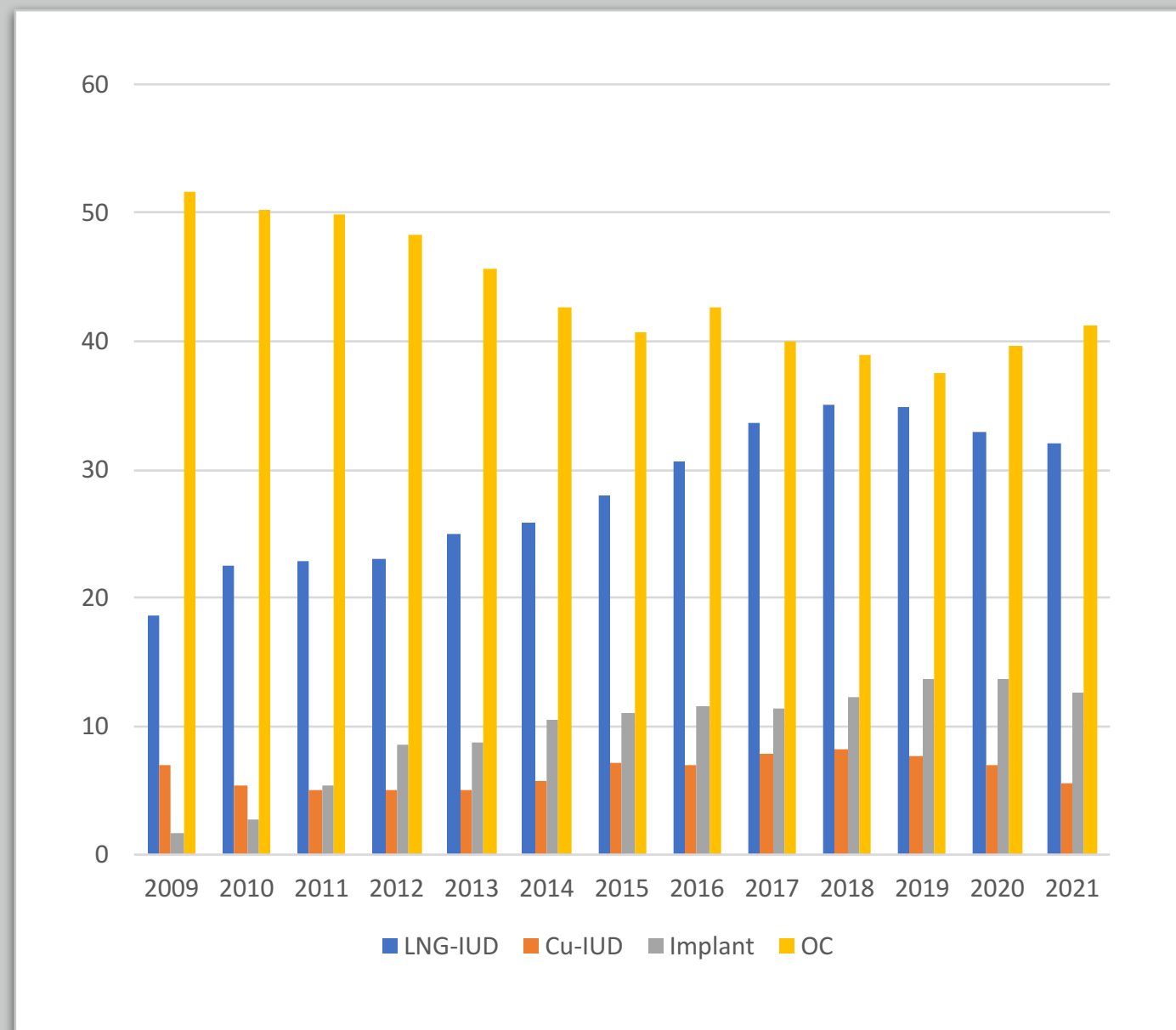
- Patterns of post-abortion contraceptive use between 2007 and 2013
- **LARC initiation increased from:**
  - 8% to 43% among adolescents
  - 9% to 37% among nulliparous women
  - (>40% on women aged >40 or III-para chose an IUD)



## Increasing proportion of women plan LARC for post-abortion contraception in Finland

- Contraceptive planning is a mandated part of abortion care.
- Individual contraceptive plans are registered to National Abortion Registry, maintained by the Finnish Institute for Health and Welfare.
- Incidence of induced abortion has declined:
  - 8.9/1000 in 2009
  - 6.7/1000 in 2021

Anna Heino & Mika Gissler / THL



## Summary & conclusions

- **Immediate start of LARC after medical abortion is safe, effective and preferred by the patients**
  - Implant provision at the time of mifepristone ingestion effective
  - IUD insertion within few days
- **Easy access to postabortion LARC important**
  - Provide LARC as part of abortion care!
- Planning LARC for postabortion contraception has increased
- **Organizing the service - especially as part of telemedicine abortion - is a challenge**



Thank you!

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