



USAID
FROM THE AMERICAN PEOPLE



Practical Handbook on Postpregnancy Contraceptive Choices

Editors:

Dr. Sunita Singal

Dr. Ashwini Kale

Dr. Neha Varun



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Foreword



Dr. Jaydeep tank

President FOGSI (2024-2025)

I have immense pleasure in writing foreword to the book “Practical Handbook on Postpregnancy contraceptive choices”.

Postpartum contraception is important for a number of reasons, including, preventing unintended pregnancy, promoting health by preventing short interpregnancy intervals, preterm birth, and other health complications and postpartum contraception can help women space out their births. Timely initiation soon after delivery is important because women can become fertile as early as 21 days after giving birth.

The right contraceptive method depends on a number of factors, including medical history, hormonal factors, and whether mother is breastfeeding or not. Thus, the need of this handbook. This handbook will be a ready reckoner for practising obstetricians and help them to provide proper post-partum contraceptive counselling.

This handbook is a step towards reducing maternal morbidity & mortality and improving maternal health outcome.

A heartfelt, thanks to Dr Ashish Kale (Chair, FOGSI FW committee), Dr Sunita Singal, Dr Ashwini kale and Dr Neha Varun (Editorial team members) for developing this handbook and special thanks to Jhpeigo for technical support.

With Best Wishes,

Dr. jaydeep Tank

FOGSI President (2024-2025)

Foreword



Dr. Somesh Kumar
Country Director, Jhpiego

I am honored to present the “Practical Handbook on Postpregnancy Contraceptive Choices,” developed in collaboration with FOGSI. This book symbolizes our joint commitment to amplify each woman’s understanding of her reproductive health through the dissemination of knowledge on proven Postpregnancy contraceptive methods.

Postpartum contraception is crucial, not only for preventing unintended pregnancy but also for preventing short interpregnancy intervals and avoiding many other health complications.

This Handbook encompasses a diverse range of Postpregnancy Contraceptive choices and the details of each method.

We are privileged to collaborate with FOGSI on this opportunity to strengthen our partnership and ensure that each woman is well-informed and updated on the latest advancements in Postpregnancy contraceptive choices.

I am grateful to the editorial board members, Dr Ashish Kale, Chair of the FOGSI FW Committee, and the members of the FOGSI FW Committee for authoring this imperative publication.

We hope this Handbook empowers you with the knowledge and confidence to make impactful choices for the betterment of your reproductive health, ultimately contributing to the improvement of our health system.

With best wishes,

Dr. Somesh Kumar,
Country Director, India
Jhpiego

Foreword



Dr. Ashish Kale

Director ASHA IVF Centre

Chairperson, FOGSI FW committee (2023-2025)

As we prepare to release this handbook on postpartum contraception in association with JHEIPGO, we recognize the critical importance of family planning in the postpartum period—a time that significantly impacts the health and well-being of both mother and child. Released on the occasion of World Population Day, this handbook is a comprehensive guide designed to empower healthcare providers and women with the knowledge to make informed decisions about contraception after childbirth.

Postpartum contraception is not merely a tool for spacing pregnancies; it is essential for reducing maternal and infant mortality, enhancing the health of women, and supporting their long-term reproductive goals. Through this resource, we aim to bridge the gap in education and access, providing clear, evidence-based information that can be easily implemented in clinical practice.

This handbook is a step towards achieving healthier futures for families and communities worldwide.

A heartfelt, thanks to Dr Sunita Singhal for developing this handbook and to Jhpeigo for being our academic partner.

From Editor's Desk

Editorial Board



Dr. Sunita Singal
Country Lead – Clinical
Services and Training-
Family Planning
Jhpiego



Dr. Ashwini Kale
Director ASHA Kiran
Hospital.
National Coordinator
FOGSI FW committee



Dr. Neha Varun
Associate Professor
AIIMS, Delhi
Member, FOGSI FW
committee

Welcome to the “Practical Handbook on Postpregnancy contraceptive choices”. This book is crafted to be a valuable resource for obstetricians navigating the complexities of post-partum contraception.

It will give details of various contraceptive options available in the post-partum & post-abortion period. We must ensure that we can deliver family planning to the last mile so that a choice of quality, affordable contraceptives reaches women and girls no matter where they live.

With the guidance and support of our Committee Chair and JPHEIGO team, we have curated chapters on Postpartum contraception from leading academicians across the country. Each chapter is authored by experts in their respective fields, who bring a wealth of knowledge to support postpartum contraception practices.

We are thankful for the consistent support and encouragement of Dr. Jaydeep Tank, President of FOGSI, Dr. Madhuri Patel, Secretary General of FOGSI, and Dr. Ashish Kale, Chairperson of the FOGSI FW committee.

We extend our gratitude and greatly acknowledge the collaborative efforts of the Jhpiego team in designing and providing technical support in preparing and printing this book. We especially thank Jhpiego's Country Director, Dr. Somesh Kumar, and Chief of Party -FP, Youth & Gender, Dr Abhijeet Pathak, for their support.

We hope this handbook becomes a ready reckoner for practicing obstetricians to provide better advice on post-partum contraception.

“Warm Regards, Editorial Team”

Abbreviations

ACOG: American College of Obstetrics & Gynaecology

AIDS: Acquired Immuno-Deficiency Syndrome

AI: Artificial Intelligence

ANM: Auxiliary Nursing and Midwifery

ASHA: Accredited Social Health Activist

BMD: Bone Mineral Density

CIC: Combined Injectables Contraceptive

COCs: Combined Oral Contraceptive Pills

CYP: Cytochrome

DMPA: Depot Medroxy Progesterone Acetate

DVT: Deep Vein Thrombosis

ECP Emergency Contraceptive Pill

EE: Ethinyl estradiol

ETG: Etonogestrel

EVA: Ethinyl Vinyl Acetate

FABM: Fertility awareness-based methods

FP: Family Planning

GOI: Government of India

HIV: Human Immunodeficiency Virus

HTSP: Healthy Timing and Spacing of Pregnancy

IM: Intramuscular

IUCD: Intra-uterine copper devices

IUD: Intra-uterine devices

LAM: Lactational Amenorrhoea Methods

LARC: Long Acting Reversible Contraception

LNG: Levonorgestrel

LNG-IUS: Levonotgestrel Intra-uterine system

MEC: Medical eligibility Criteria

MPA: Medroxy Progesterone Acetate

MNH: Maternal and Newborn Health

MTP: Medical Termination of Pregnancy

NET-EN: Norethisterone Enanthate

NFHS: National Family Health Survey
NGO: Non-Governmental Organization
NLP: Natural Language Processing
NSAIDs: Non-steroidal anti-inflammatory drugs
NSV: No-Scalpel Vasectomy
OCP: Oral Contraceptive Pills
PAFP: Post abortion Family Planning
PPFP: Post Partum Family Planning
PPIUCD: Post-partum Intra-uterine copper devices
POI: Progestogen-only Injectables
POP: Progestin-only pills
PVR: Progesterone Vaginal ring
RMNCH+A: Reproductive, Maternal, Newborn, Child and Adolescent Health.
SDGs: Sustainable Developmental Goals
SERM: Selective Estrogen Receptor Modulator
STIs: Sexually Transmitted Infections
SubQ: Subcutaneous
UK: United Kingdom
VTE: Venous Thromboembolism
WHO: World Health Organization

List of contributors

Dr. Aparna Sridhar

David Geffen School of Medicine
at the University of California Los
Angeles

Dr. Aruna Kumari Yerra

Professor, Department of Obstetrics
and Gynecology, ESIC Medical College
and Hospital, Faridabad

Dr. Ashwini Kale

Director ASHA Kiran Hospital, Pune,
Maharashtra.

Dr. Avir Sarkar

Assistant Professor, Department of
Obstetrics and Gynecology, Institute
of Medical Sciences, Noida

Dr. Harsha Gaikwad

Director Prof, VMMC & SJ Hospital, N
Delhi

Dr. Mikaela Koch

David Geffen School of Medicine
at the University of California Los
Angeles

Dr. Neha Varun

Associate Professor, Department of
Obstetrics & Gynecology, AIIMS, Delhi

Dr. Nidhi Bhatt

National Officer- Reproductive Health
(Family Planning)
WHO Country Office for India

Dr. Paridhi Gupta

Senior Resident, Department of
Obstetrics & Gynecology, AIIMS, Delhi

Dr. Pragati Singh

National Professional Officer, Sexual
Reproductive Health Rights
WHO India Country Office, New Delhi

Dr. Prathamesh Lanjewar

Research Associate, Department of
Obstetrics and Gynecology, Institute
of Medical Sciences, Noida

Dr. Priya Gupta

Director, Maa & Me Centre, Senior
Consultant at KHI & Shriji Hospital,
Kota (Rajasthan)

Dr. Puja Singh

Senior Resident, Department of
Obstetrics & Gynecology, AIIMS, Delhi

Dr. Sunita Singal

Country Lead -Clinical Services and
Trainings-Family Planning, MCGL:
India-Yash, Jhpiego, USAID Grantee.

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- https://youtu.be/_UB9YYfu5No?feature=shared

Unmet Need for Family Planning in India

“Challenges and Opportunities”

Pragati Singh- National Professional Officer, SRHR, WHO-Country Office for India, Nidhi Bhatt-National Officer, Family Planning, WHO-Country Office for India. Sunita Singal, Country Lead – Clinical Services and Training-Family Planning, MCGL, Jhpiego

1.1 Legacy of the century in contraception

India has a long history of successful contraceptive initiatives, starting with the world's first government-backed birth control clinics in Mysore in 1930. The National Family Planning Program was launched in 1952. Later, in 2012, the focus shifted to maternal and child health under the RMNCH+A approach, emphasizing women's education and empowerment.

Despite progress, there remains a significant unmet need for contraception, especially among adolescents, youth, and women in rural and underserved areas.

The unmet need for contraception is defined as the proportion of women who wish to delay or avoid pregnancy but are not using any modern method of contraception.

The article explores the challenges and opportunities in addressing this unmet need, particularly Postpregnancy.

1.2 Understanding the Unmet Need for Family Planning- *Global and National Landscape:*

Socio-economic, cultural, and health system-related factors influence the unmet need for family planning in India. Globally, 874 million women use modern contraceptive methods, while 256 million have an unmet need for them. India, with a population of about 1.36 billion and an annual growth rate of 1%, has seen modern contraceptive use rise from 47.8% in 2015-16

to 56.5% in 2019-21. Despite this, the unmet need for modern contraception has increased from 18.6% to 19.6%, equating to around 51 million couples—this unmet need challenges reproductive health and achieving Sustainable Development Goals (SDGs).

The contraceptive method mix varies significantly by region. For instance, in sub-Saharan Africa, injectables are the most commonly used, while in South Asia, female sterilization predominates. In India, female sterilization remains a preferred choice; however, as per the latest National Family Health Survey (NFHS-5), there is a notable shift toward spacing methods, particularly through an increase in condom use, IUCD, and injectable contraceptives.

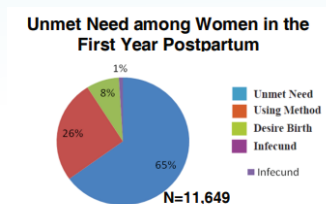
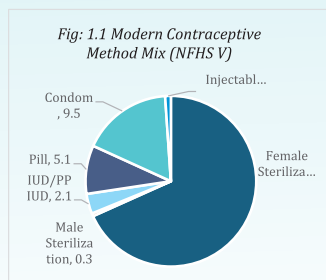


Figure 1.2: Unmet Need among Women in the First Year Postpartum

Source: USAID/ACCESS. 2009. *Family Planning Needs during the Extended Postpartum Period in India*

Unmet Need in the Postpartum Period

In India, 65% of women in the first year postpartum have an unmet need for family planning, as shown in Figure 1.2. Only 26% of women are using any method of family planning during the first year postpartum. 8% of the women desire to have another child within the next two years after giving birth and are vulnerable to the risks of early pregnancy.

1.3 Challenges in Addressing Unmet Need for Contraception

A. Socio-Cultural Barriers

- Cultural norms, misconceptions, and stigma around contraception are significant barriers, especially for young women and adolescents.
- India's demographic includes 36% aged 10 to 29 years.
- Early marriage is prevalent, with 23.3% of women aged 20-24 married before 18, leading to early and unplanned pregnancies.
- Contraception discussions are often taboo, resulting in high reliance on less effective traditional methods, which increased from 5.7% to 10.2% (NFHS-4 to NFHS-5).

B. Limited Access to Comprehensive Family Planning Services

- Access to family planning services is challenging due to an overburdened healthcare system lacking infrastructure for a wide range of contraceptive options, especially LARCs.
- High unmet need for Postpregnancy contraception, with postpartum women less likely to receive counseling, leading to short birth intervals and unintended pregnancies.

C. Knowledge Gaps and Misconceptions

- Significant knowledge gaps about contraception remain, particularly among adolescents and youth.
- Misconceptions about the side effects of hormonal methods and IUDs deter many women.
- Unmet need for modern contraception is 28% in the 20-24 age group (NFHS-5).
- Lack of proper counseling and youth-friendly reproductive health services contribute to high unmet needs.

D. Gender Inequality and Power Dynamics

- Gender dynamics limit women's decision-making power regarding family size and contraceptive use.
- Male involvement in family planning is minimal, with only 5.6% of men using condoms and low vasectomy rates.
- The burden of contraception falls disproportionately on women.
- Promoting male involvement through educational programs and interventions is a significant challenge.

E. Health System Barriers

- The healthcare system faces challenges in delivering comprehensive family planning services.
- Integrating family planning into maternal and child health services is difficult.
- Postpartum women often do not receive prioritized contraceptive counseling and services during routine antenatal and postnatal care.

1.4 Opportunities for Addressing the Unmet Need

Despite the challenges, several opportunities exist to address the unmet need for family planning in India, especially Postpregnancy contraception:

A. Expanding Access to Postpartum Family Planning

- Integrating family planning counseling into antenatal, delivery, and postnatal care services can inform women about contraceptive options early in pregnancy and empower them to make informed choices after childbirth.

B. Strengthening Adolescent and Youth-Friendly Services

- With 36% of the population aged 10 to 29, addressing the unmet need for contraception among adolescents and youth is crucial for long-term reproductive health goals.

C. Promoting Male Involvement in Family Planning

- Engaging men in family planning enhances contraceptive uptake and promotes gender equality and shared responsibility in reproductive health.

D. Leveraging Community Health Workers for Contraceptive Education

- Utilizing India's network of Accredited Social Health Activists (ASHAs) and Auxiliary Nurse Midwives (ANMs) can expand access to contraceptive services, particularly in rural areas.

E. Partnering with Non-Governmental Organizations (NGOs)

1.5 Implications in Service Provisioning

As a healthcare provider, one can be crucial in addressing India's unmet family planning needs. Here are several strategies that can be implemented:

1.5.1 Comprehensive Counseling

Comprehensive counseling should be prioritized that not only discusses available contraceptive options but also addresses myths, misconceptions, and cultural barriers. This approach should involve:

- Educating patients about the benefits and potential side effects of various contraceptive methods.
- Creating a safe space for patients to discuss their concerns and preferences.

1.5.2 Tailored Interventions

Recognizing that different populations have varying needs is essential. Tailor-made interventions targeted at specific demographics, such as adolescents, married women, and those in rural areas, are essential.

1.5.3 Strengthening Health Systems

Effective integration of family planning services within the broader healthcare system is crucial. Healthcare facilities must provide a range of contraceptive options. In addition, training for healthcare providers is essential to ensure they are equipped to handle family planning discussions sensitively and effectively.

1.5.4 Collaboration with NGOs and Community Organizations

Partnerships with non-governmental organizations (NGOs) and community organizations can amplify outreach efforts. These collaborations can focus on:

- Raising awareness about family planning.
- Providing services in underserved areas.
- Researching to identify specific community needs.

Key points

- The unmet need for family planning in India remains a significant public health challenge, particularly among youth and marginalized communities.
- Understanding the demographics and barriers to effective contraception is critical in providing comprehensive care.
- While socio-cultural barriers, health system limitations, and gender dynamics continue to hinder progress, there are numerous avenues for intervention.
- Expanding access to postpartum family planning, strengthening youth-friendly services, promoting male involvement, and employing targeted strategies are all critical for reducing the unmet need for contraception.
- Addressing these unmet needs improves individual health outcomes and aids in achieving broader societal goals, including gender equity and sustainable development.

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Postpregnancy Family Planning: An Overview

Nidhi Bhatt-National Officer, Family Planning, WHO-Country Office for India.

Pragati Singh- National Professional Officer, SRHR, WHO-Country Office for India

Sunita Singal, Country Lead – Clinical Services and Training-Family Planning, MCGL, Jhpiego

2.1 Background

Postpregnancy Family Planning (PPFP) is a vital component of reproductive health care, focusing on the prevention of unintended pregnancies and promoting healthy timing and spacing of pregnancies. It involves guiding patients through their Postpregnancy journey, which encompasses the periods following childbirth and abortion.

Post-pregnancy family planning (PPFP) is defined as the use of any modern method of contraception in the prevention of unintended pregnancy and closely spaced pregnancies through the first 12 months following childbirth or loss of a pregnancy.¹

Healthcare providers must understand available options, consider the patient's individual needs, desires, and medical history, and provide appropriate postpartum contraception to promote healthy pregnancy spacing and prevent unintended pregnancy (HTSP).

2.2 Postpregnancy Family Planning -a critical Intervention to address unmet need

The postpartum period is characterized by significant physiological changes in a woman's body as it transitions back to its pre-pregnancy state. During this time, women are particularly vulnerable to unintended pregnancies, which can lead to adverse maternal and child health outcomes.

Research Indicates that:

- *95% of women in the first 12 months postpartum wish to avoid pregnancy** within the next 24 months, but 70% do not use contraception (Ross & Winfrey, 2001).*
- *Closely spaced pregnancies, especially within the first year postpartum, are associated with increased risks, such as low birth weight, preterm delivery, and child mortality (Da Vanzo et al., 2007).*
- *Effective PFP can avert > 30% of maternal deaths and 10% of child mortality if pregnancies are spaced more than two years apart (Cleland et al., 2006).*

The vicious cycle of abortion and pregnancies poses a high risk for maternal mortality and morbidities, and timely FP services can avert these complications and consequences.

Unsafe abortions account for 5-13% of all maternal deaths globally and are the third leading cause of maternal mortality in India, with eight women dying each day due to complications. Unsafe abortions can lead to severe health complications, including:

- **Immediate Risks:** Hemorrhage, infection, incomplete abortion, and injury to internal organs.
- **Long-term Health Issues:** Chronic pain, infertility, and psychological trauma.
- **Maternal Mortality:** Unsafe abortions are a significant cause of maternal deaths, particularly in regions with restricted access to safe abortion services.

Contraceptive uptake in the immediate Postpregnancy period is largely dependent on initiating contraception discussion/counseling early after registration of pregnancy. It provides ample time for the couple to know and discuss contraceptive choices with the healthcare provider, enabling a timely decision.

In addition, it is important to counsel about the Healthy Timing and Spacing of Pregnancy (HTSP). Three key messages about HTSP:

1. *First pregnancy should be planned after the age of 20 years to avoid the harmful consequences of teenage pregnancies.*

2. *After a live birth, subsequent pregnancy should be planned only after two years or later to keep an adequate interval between two births (ideal spacing between two births is 3-5 years)*
3. *After a miscarriage or abortion, subsequent pregnancy should be planned only after six months or later to avoid the chances of an abortion again.*

Given these statistics, integrating PPFPP into routine gynecological care can play a crucial role in improving maternal and child health.

2.2.1 Post-Partum Family Planning

The postpartum period, often referred to as the puerperium, is the time following childbirth, during which the mother's body undergoes various physiological changes to return to its pre-pregnancy state (by six weeks). However, a woman can become pregnant soon after childbirth even before return of menses.

Return of fertility after childbirth

- Six months postpartum, if a woman is exclusively breastfeeding her child,
- Six weeks postpartum, if a woman is not exclusively breastfeeding her child.
- Four weeks postpartum if a woman is not breastfeeding at all.

This period can be divided into 3 phases –

Immediate	Extended	Late
0-24 hours	24 hours-6 weeks	Six weeks -1 year

2.2.2 Post-Abortion Family Planning

After an abortion (Induced and spontaneous), fertility may return as early as within 8-10 days (Table 1). The majority of these women who have undergone an abortion do not want to become pregnant again soon.

WHO recommends spacing of at least six months between abortion and the subsequent pregnancy.

Therefore, providing family planning services as a part of postabortion care can improve contraceptive acceptance and help break the cycle of repeated unwanted pregnancies.

Table 1: Timing of Abortion and Return of Fertility

Time of Abortion	Method of management for abortion	Review of return to fertility
First-trimester abortion	After vacuum aspiration	Women may ovulate within ten days of an abortion (Boyd et al., 1972)
	After medical abortion with mifepristone and misoprostol	A woman will ovulate within 20 days of a medical abortion but can ovulate as early as eight days (Schreiber, Sober, Ratcliffe & Creinin, 2011)
Second-trimester abortion	After medical abortion with mifepristone and misoprostol	Within four weeks

2.3 Postpartum Family Planning

2.3.1 Harnessing Potential of PPFp for Reproductive Health

PPFP is an integrated part of existing maternal and child health care. Continuum of care offers points of contact within the health care system (Fig 1) that can provide opportunities to integrate PPFp with maternal, newborn, and child health (MNCH) interventions during the 12 months after childbirth.²

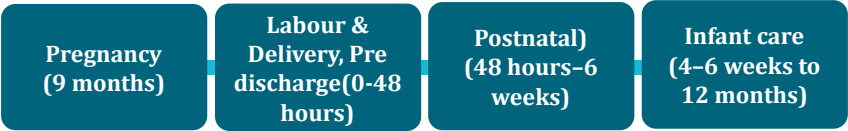


Fig 1: Point of contacts in case of Full-term Pregnancy & Delivery

2.3.2 The contraceptive options available can be offered at different phases of the postpartum period after proper screening and ensuring informed voluntary consent, as given below:

Table 2: Timing of Initiation of FP methods in Post Partum Period

FP method		Postpartum	
		Fully Breastfeeding	Partially / Non-Breastfeeding
Intra Uterine Contraceptive Devices (IUCD 380A & 375)		Within 48 hours of vaginal delivery or concurrently with C-section or after six weeks	
Subdermal Contraceptive Implant (Single Rod)		Immediately after delivery*	
Injectable Contraceptive MPA		At six weeks	Earlier than six weeks
Combined Oral Pills		After six months	Any time on days 21-28 after giving birth
Progesterone only Pills		Earlier than six weeks *	
Weekly Oral Pill - Centchroman		Any time after delivery*	
Emergency contraceptive pills		Within 72 hours of unprotected intercourse *	
Female Sterilization		Within seven days of delivery or after six weeks*	
Male Sterilization		Anytime as it has no relation with the female partner's physiological situation*	
Condoms		Anytime, if both partners are comfortable to use*	
Patch #		At or after six months	Any time on days 21-28 after giving birth
Vaginal Ring#	Combined	At or after six months	Any time on days 21-28 after giving birth
	Progesterone	4-9 weeks after giving birth	
Diaphragm		At or after six weeks of childbirth*	

*Irrespective of breast-feeding status

2.3.3 Other Contraceptive Options

a. Lactational Amenorrhea Method (LAM)

LAM is a natural family planning method, and if followed strictly, it has a failure rate of less than 1% during the first six months postpartum.

LAM is highly effective if all three conditions are met-

- Woman is exclusively breastfeeding her child.
- Monthly periods have not returned after childbirth.
- Child is less than six months old.

While LAM can be effective, it is essential that healthcare providers discuss potential risks and limitations with patients. For example, LAM is less effective in women who frequently pump or use bottles to supplement breastfeeding. Educating patients about the signs of ovulation, such as cervical mucus changes or abdominal pain, is also important to ensure proper use of the method.

b. Fertility Awareness-Based Methods (FABMs)

Fertility awareness-based methods involve tracking changes in cervical mucus, basal body temperature, and menstrual cycles to identify fertile and non-fertile periods. FABMs can be combined with barrier methods for increased effectiveness.

One of the most popular FABMs is the sympto-thermal method, which involves tracking changes in basal body temperature, cervical mucus, and other fertility signs to identify the fertile window. The Billings method is another FABM that relies mainly on cervical mucus changes.

While FABMs can be effective, healthcare providers should educate patients about the importance of consistent and accurate tracking and how to identify fertile periods.

2.4 Post Abortion Family Planning

Counseling on contraception should ideally begin before the abortion procedure and continue during and immediately after the procedure (Fig 2). This ensures that women have the necessary information to make informed decisions and can start using contraception as soon as possible. Healthcare providers should offer non-judgmental, sensitive counseling that respects the woman's preferences and circumstances.

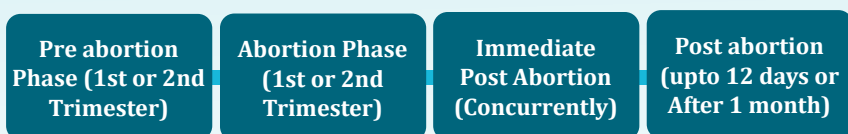


Fig 2: Point of contacts in case of abortion

Table 3: Contraceptive Method Options and Timing of Initiation after Abortion

Contraceptive Method	After 1st Trimester Abortion	After 2nd Trimester Abortion	After Medical Abortion
Hormonal Contraceptives (Combined Oral Contraceptives, Contraceptive Patch, Vaginal Ring, Injectable Contraceptive)	Immediately	Immediately	Immediately
Diaphragms	Immediately	Six weeks	Immediately
Long-acting reversible Contraceptives (LARCs) (Implants, Copper IUCD and Hormonal IUCD)	Immediately	Immediately	Immediately
Centchroman (Ormeloxifene)	Immediately	Immediately	Immediately
Emergency Contraceptive Pills (ECPs)	Immediately	Immediately	Immediately
Female sterilization	Concurrently	Only mini-lap	After the next menstrual cycle
Male Methods (Condom/Male Sterilization)	Immediately	Immediately	Immediately
Fertility Awareness-Based Methods	With caution, it requires careful counseling.		

All contraceptives except for female Sterilization & IUCD can be provided immediately in all cases of abortion, even if the woman has an injury to the genital tract or has a possible or confirmed infection. IUCD & Female Sterilization can only be provided once an infection is resolved or ruled out or injury to the genital tract has healed.

2.4 Key points

- Postpregnancy contraception is crucial for preventing unintended pregnancies and ensuring optimal maternal and child health.
- Following birth, fertility can return as early as three weeks, making it essential for women to adopt effective contraception immediately.
- Proper spacing between pregnancies allows the mother's body to recover, reducing risks of maternal complications such as anemia and preterm birth.
- It also ensures better health outcomes for the newborn.
- Offering Postpregnancy contraception during antenatal and postpartum care can empower women to make informed choices about their reproductive health, ultimately improving family planning outcomes and contributing to overall well-being.

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Long-Acting Contraceptive Options

a. Subdermal Contraceptive Implants

Neha Varun, Paridhi Gupta

Associate Professor, Senior Resident

Department of Obstetrics & Gynecology, AIIMS, Delhi

Introduction

India has witnessed a substantial improvement in increasing access to modern contraceptives and reducing total fertility levels in the last few decades. However, our country still has an inherent need for contraception as a method of family planning and to avoid maternal morbidity and mortality resulting from unintended pregnancies. There is a consistent unmet need for family planning and contraception in different phases of the reproductive life span.

Implants were introduced almost three decades ago and are one of the most effective long-acting reversible (LARC) methods of contraception. Much progress has been made in the technology since the introduction of the first-generation Norplant in 1983, from 6 rods (Levonorgestrel containing - Norplant) to a single rod (Etonogestrel containing - Implanon NXT). Some of the latest versions offer contraception for as long as five years after insertion. As implants do not contain estrogen, they do not affect the production of breast milk and are thus suitable for breastfeeding women in the immediate postpartum period.

The Government of India (GOI) expanded the contraceptive basket under the National Family Planning Program to provide more choices in the postpartum period and offer a practical long-acting reversible contraceptive choice by the inclusion of subdermal contraceptive Implants (single rod) in the year 2023. [1]

Evolution of Implants: Described in Table 1

Table 1: Evolution of different types of Implants. [1]

Sr No.	Type of Implants	Composition	Number of Rods	Duration of Effective
1.	LNG containing	Norplant - 36 mcg	6 rods	Five years
		Sino implant-II - 75 mcg	2 rods	Four years
		Jadelle (Norplant - 2) - 75 mcg	2 rods	Five years
2.	Etonogestrel containing (ETG)	Nexplanon- 68 mg (Barium sulfate impregnated)	1 rod	Three years
		Implanon - 68 mg	1 rod	Three years (Extended duration up to 4 years)
3.	Elcometrine releasing	Nestorone- 50 mg	1 rod	Six months
4.	Nomegestrol releasing	Uniplant - 38 mg	1 rod	One year

Composition of Single Rod ETG Implant

This single rod implant is available in a preloaded disposable sterile applicator (Fig 1). It is a single rod, 4 cm long and 2 mm in diameter, with a core and skin that contain active and inactive ingredients, and it contains Barium sulfate in the core, which makes it radiopaque. (Fig 2)



Fig 1: Implanon NXT Preloaded Applicator

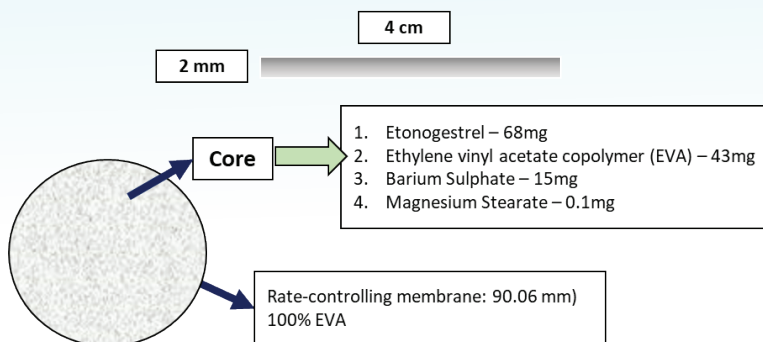


Fig 2. Size and cross-sectional structure of Implant [1]

Pharmacokinetics

Absorption: Post-insertion, the Etonogestrel is rapidly absorbed into the circulation, and ovulation-inhibiting levels are reached within 24 hours. While hormone levels drop throughout the contraceptive implants' span of use, the mean levels remain well above the suggested pregnancy threshold. These results indicate that one-rod contraceptive implants are effective for three years. (Table 2). [1] Once the implant is removed, there is an early return to fertility as the plasma level falls quickly.

Table 2: Release and absorption of ETG into circulation to provide contraceptive effect

Release rate of Etonogestrel	Absorption of Etonogestrel to provide the contraceptive effect
Week 5-6 of insertion (60-70 mcg/day)	Ovulation-inhibiting concentration reached within hour to one day (>90 pg/ml)
At the end of 2 years-(30-40-mcg/day)	Max serum conc. Is reached within two weeks (472 to 1270 pg/ml)
At the end of 3 years (25-30 mcg/day)	By the end of three years, serum concentration gradually decreases to 156 pg/ml and falls to 20 pg/ml within about four days. Therefore, return to fertility is early with an Implant.

Mechanism of Action

Etonogestrel is the active metabolite of desogestrel. The primary mechanism of action of the implant is suppression of ovulation via feedback mechanisms of progesterone on the Hypothalamic pituitary axis. [2] Other effects include thickening of cervical mucus and thinning of the endometrial lining.

Individuals using enzyme-inducing drugs should be informed that the contraceptive effectiveness of the ETG implant could be reduced during the use of the enzyme-inducer and for 28 days after stopping the enzyme-inducer. [3] The pregnancy rate with typical use is 0.05%, which is much lower than that of female sterilization.

One large study conducted by Ali M et al. reported no pregnancies among 204 women using the etonogestrel implant for five years. [4] In another study, no pregnancies were reported among 102 study participants who used the etonogestrel implant for five years. [5]

MEC Criteria for Implants: Kindly find details in the attached Annexure

Condition	MEC 1	MEC 2	MEC 3	MEC 4
Breastfeeding				
< 6 weeks postpartum		+		
≥ 6 weeks	+			
Not Breast Feeding				
< 6 weeks postpartum	+			
≥ 6 weeks	+			
Post-abortion				
First Trimester	+			
Second Trimester	+			
Immediately post-septic abortion	+			

Timing of Insertion [2]: Described in Table 3

Table 3: Timing of insertion of Implants

Post-abortion	Insertion of the contraceptive implant on the same day as first-trimester or second-trimester induced or spontaneous abortion should be offered routinely as a safe and effective contraceptive option.
Postpartum	Immediate postpartum insertion, regardless of breastfeeding status, is recommended by ACOG.
Interval insertion	Anytime, provided pregnancy is ruled out.

Technique of Insertion

A skilled practitioner should insert a subdermal contraceptive implant. It is inserted away from major blood vessels, muscles, and nerves on the inner aspect of the non-dominant arm just under the skin, 8–10 cm proximal to the medial epicondyle and 3–5 cm posterior to the sulcus (groove between the biceps and triceps muscles). It is recommended that the insertion site be measured and marked before insertion.

Steps of Insertion: Please find the steps for insertion in the attached video link below.

https://www.nexplanonvideos.com/home_lander_subs.html?country=EN

Post-Insertion Care

- Observe the client for at least 15–20 minutes.
- Check the dressing for any soakage.
- Complete the facility records and registers.
- Hand over the Implant Card to the client.
- Use of prophylactic antibiotics is not recommended.
- Remove the outer dressing after two days.

Removal of Implants: Kindly find the Steps of removal in the attached video link https://www.nexplanonvideos.com/home_lander_subs.html?country=EN

Other ADDED Benefits:[6]

- Decrease in dysmenorrhea [7]
- Protects against ectopic pregnancy
- Protects against anemia
- Reversible with immediate return of fertility
- Does not interfere with sexual activity or pleasure
- Does not require any action from the user after insertion

SIDE EFFECTS

- Menstrual irregularities. The most common is amenorrhea, around 25.9%; irregular bleeding is seen in 17.3%, and heavy or prolonged bleeding is seen in 15.9%. A 5–7 day course of nonsteroidal anti-inflammatory medication may be considered for contraceptive implant users who experience irregular bleeding. Women with bothersome implant-associated bleeding

who are medically eligible for treatment with estrogen can receive a course of low-dose combined oral contraceptive pills. [2]

- Acne (can improve or worsen)
- Weight change
- Breast tenderness or mastalgia
- Dizziness
- Mood changes
- Nausea
- Headache
- Pain at the insertion site.
- Abscess formation.
- Rarely, Complete or Partial Expulsion of the Implant

Key points

- LARC is the most effective method of contraception, especially Subdermal implants (Failure rate 0.05%).
- Implants have good acceptance with reasonable continuation rates.
- Discontinuation: The most common reason is irregular and heavy bleeding rather than amenorrhea. Rarely due to non-menstrual complaints.
- With better knowledge and accessibility, implants can play a significant role in preventing unintended pregnancies.

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Long-Acting Contraceptive Options

b. Injectable contraceptives

Sunita Singal, Neha Varun

*Country Lead-Clinical Services and Training-Family Planning, MCGL, Jhpiego
Associate Professor, Department of Obstetrics & Gynecology, AIIMS, Delhi*

Introduction

Depot Medroxyprogesterone Acetate (DMPA) is a popular progestin-only injectable contraceptive administered every three months. Available in both intramuscular (IM) and subcutaneous (SubQ) forms, DMPA provides a long-term contraceptive option without daily administration. Developed in the 1950s, it was approved for contraceptive use in the U.S. in 1992 and introduced in India in 1993. It was incorporated into India's National Program in 2016-17, with a subcutaneous variant introduced in 2023.

Overview of DMPA

DMPA is an aqueous suspension of microcrystals for depo-injection, available in India in two forms (Fig.1):

- **Intramuscular (IM) DMPA:** Administered as a single-dose vial with a syringe, injected deep into the muscle.
- **Subcutaneous (SubQ) DMPA:** Available as a prefilled syringe (Uniject system), single dose, with a shorter needle, allowing self-administration.

DMPA should be initiated six weeks postpartum for breastfeeding women; non-breastfeeding women can start earlier.



Fig.1: Showing two types of Injectable contraceptives

Types of Injectable Contraceptives: Injectable contraceptives can be classified into two main types (Table 1)

Table 1: Describe two types of injectable contraceptives

Types of Injectables		Schedule
Progestogen-only Injectables (POI)	Medroxy Progesterone Acetate (MPA)	Three monthly
	Norethisterone Enanthate (NET-EN)	Two monthly
Combined Injectables Contraceptive (CIC)	Estrogen (usually Ethinyl-estradiol) and Progesterone	One monthly

Switching between IM and SC DMPA

The active ingredients in the IM and SC are identical, giving the same level of contraceptive protection, so switching between them every three months is safe. However, switching should not be a routine practice.

Critical Differences Between IM and SubQ DMPA

Table 2: Describe differences between IM and SC DMPA

Features	MPA-SC	MPA-IM
Dosage	A dose containing 104 mg / 0.65 ml of MPA must be administered every three months.	A 150 mg / 1 ml dose of MPA must be administered every three months.
Site of Administration	Subcutaneously in the outer anterior portion of the thigh, abdomen, or back of the upper arm	Intramuscularly in the upper arm, hip, or buttocks
Mode of Administration	Pierces the epidermal and dermal layers of the skin, delivers the drug in loose subcutaneous tissue Short needle	Given deep intra-muscular Longer needle

Mechanism of Action

DMPA suppresses ovulation by inhibiting gonadotropins (LH and FSH). It also thickens cervical mucus, making it difficult for sperm to penetrate, and alters the endometrial lining to prevent implantation. Each injection is effective for about 12 weeks.

Pharmacokinetics

DMPA is gradually released from the injection site into the bloodstream; the injection has a rapid onset of action, typically within 24 hours, and maintains serum levels of 1-2 ng/mL for effective contraception & maintaining it for about 12 weeks. It binds to plasma proteins and is distributed throughout the body. DMPA is metabolized primarily in the liver and excreted through urine. The half-life is approximately 50 days for IM injections and 40 days for SubQ injections.

Efficacy and Failure Rate

- Typical-Use Failure Rate: Approximately 6% per year.
- Perfect-Use Failure Rate: Around 0.2%.

Advantages of DMPA

- Highly effective, reversible, convenient administration every three months.
- Suitable for women who cannot use oestrogen-containing contraceptives.

Non-Contraceptive Benefits

- Reduces menstrual cramps, premenstrual syndrome,
- Protection from endometrial cancer, ovarian cancer, and uterine fibroids, may protect from symptomatic pelvic inflammatory disease and iron deficiency anemia, reduces symptoms of endometriosis
- Reduces sickle-cell crises in women with sickle-cell anemia. The progesterone hormone in MPA decreases sickling by stabilizing the cell membrane, preventing RBCs from breaking down and clogging the blood vessels during the crisis, and suppressing the pain caused by it.
- Minimal drug interactions with antibiotics or enzyme-inducing drugs.
- Progesterone seems to have a calming effect on the brain and thereby reduces epileptic seizures.

Limitations and Considerations

Impact on Bone Mineral Density (BMD)

Long-term use of DMPA is associated with a reduction in BMD, with losses ranging from 0.5% to 3.5% at the hip and spine after one year and up to 5.4% after five years. BMD typically recovers to near-normal levels after discontinuation. Regular monitoring, adequate calcium and vitamin D intake, and weight-bearing exercise are recommended.

Delayed Return to Fertility

One of the significant limitations of DMPA is the delayed return to fertility after discontinuation. It may take several months to over a year for fertility to return to normal. This delay is due to the prolonged suppression of ovulation caused by the hormone. Women who plan to conceive shortly after stopping contraception should consider this factor when choosing DMPA.

MEC criteria (Table 3)

Table 3. WHO MEC for Postpartum Use

Condition	Category
BREAST-FEEDING	
a. < 6 weeks postpartum	3
b. > or equal to 6 weeks to < 6 months postpartum (primarily breast-feeding)	1
c. > or equal to six months postpartum	1
POSTPARTUM (NON-BREASTFEEDING WOMEN)	
a. < 21 days	1
b. > or equal 21 days	1

Usage and Precautions in Different Age Groups

- **< 18 Years:** Careful consideration due to potential impact on bone density.
- **> 35 Years:** Safe, but monitoring for cardiovascular risks is advised.
- **> 45 Years:** Can be used, but alternative methods may be considered due to increased risk of osteoporosis.

Progestin-only injectables are not recommended for women with the following conditions (for a complete list, see Annexure: WHO medical eligibility criteria),

- Fully or partially breastfeeding while less than six weeks postpartum
- Severe cirrhosis, malignant liver tumors, or benign liver tumors, except for focal nodular hyperplasia (a tumor that consists of scar tissue and normal liver cells)
- Blood pressure more than 160/100 mmHg
- Diabetes for more than 20 years or with vascular complications
- Acute deep venous thrombosis (unless on established anticoagulant therapy)

- Current or history of ischemic heart disease or stroke
- Unexplained vaginal bleeding (before evaluation)
- History of or current breast cancer
- Multiple risk factors for cardiovascular disease

Individual assessment by healthcare providers is crucial to ensure the safe use of DMPA in women with specific medical conditions.

Timing of Initiation of DMPA (Table 4)

Table 4: Timing of Initiation of DMPA for Post-partum Women-Breastfeeding (fully or partially)

Situation	Instruction to Service Provider
Breastfeeding (fully or partially)	
Less than six weeks postpartum	Delay the first injection until six weeks postpartum.
Less than six months postpartum	If fully breastfeeding, it can be started immediately up to 6 months if bleeding has not returned; no backup method is required.
	If partially breastfeeding can be started immediately if pregnancy is ruled out and monthly bleeding has not returned, a backup method (condom) is required for the first seven days.
More than six months postpartum	It can be started immediately if pregnancy is ruled out and monthly bleeding has not returned; a backup method (condom) is required for the first seven days.
Non-breastfeeding women	
Less than four weeks after giving birth	Anytime, no backup method is required.
More than four weeks after giving birth	Immediately, if pregnancy is ruled out and monthly bleeding has not returned, a backup method (condom) is required for the first seven days.
Post Abortion Period	
Immediately after abortion or within 7 Days of abortion	Give MPA; no backup method is required.
More than seven days after abortion	If there is no history of unprotected coitus, Give MPA and advise backup method for the next seven days. If there is a history of unprotected coitus, Do not give MPA; advise condoms until the next menses.

Subsequent doses of DMPA

A few clients may come late for the repeat injection. WHO recommends that subsequent injections can safely be given up to 4 weeks late and two weeks earlier than the due date.

Side Effects and Management

MPA has no severe side effects. However, a few women may experience some menstrual irregularities in the form of irregular bleeding, prolonged bleeding, or amenorrhea. Counseling should resolve the concerns of the women. Approximately 50 percent of women will have amenorrhea after one year of use, and over 70 percent will report amenorrhea with a longer duration of use. (Table 5)

Table 5: Common side effects associated with DMPA use and their management

Side Effect	Management
Menstrual Changes	Counseling and reassurance. Assess bleeding changes and rule out other gynecological causes.
Irregular Bleeding	<ul style="list-style-type: none">• Reassurance that this is common, not harmful, and usually resolves over time.• For modest short-term relief, give NSAIDs such as Ibuprofen 400 mg TDS or Mefenamic acid/ Tranexamic Acid 500 mg TDS for five days.
Prolonged/Heavy Bleeding	<ul style="list-style-type: none">• Reassurance.• Give NSAID/Mefenamic/Tranexamic acid 500 mg 3 times daily for five days.• If there is no response, give 50 mcg of Ethinyl Estradiol daily for 21 days• Give iron tablets and suggest foods high in iron to prevent anemia.• If bleeding becomes a health threat or the woman wants, help her choose another method.
Amenorrhea	After assessing and ruling out pregnancy, reassure the client that the absence of periods is common and not harmful. Menstruation typically resumes after discontinuation of MPA.
Weight Gain	Counsel the client that some women may experience slight weight gain (1-2 kg in one year), but it is not usually significant. Review diet and provide appropriate guidance.

Side Effect	Management
Headache	<ul style="list-style-type: none"> For non-migraine headaches, reassure and suggest pain relievers like Ibuprofen or Paracetamol. <p>If headaches worsen after starting an injectable contraceptive, evaluate the type.</p> <ul style="list-style-type: none"> If without aura, the method can be continued. If with aura, discontinue and help choose another method without estrogen.
Changes in Mood or Sex Drive	Ask about changes in life that could affect mood or sex drive. Provide support as appropriate.

How long a woman can use DMPA

DMPA can be used safely for extended periods. However, women should be monitored regularly, and bone health should be managed with supplements and lifestyle modifications. The duration of use should be individualized based on the woman's health status and contraceptive needs.

Key Points

- Depot Medroxyprogesterone Acetate (DMPA), available in both IM and SubQ forms, is a safe, highly effective, and convenient contraceptive option suitable for women who cannot use estrogen-containing contraceptives.
- The limitations include delayed fertility return and potential bone mineral density reduction.
- Regular monitoring and lifestyle modifications can help manage these side effects, ensuring safe and effective use across different populations.
- Clients can use the DMPA Sub-cutaneous variety for self-administration after learning!

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Long-Acting Contraceptive Options

c. PPIUCD (Hormonal & Non-Hormonal)

Avir Sarkar¹, Prathamesh Lanjewar², Aruna Kumari Yerra³

1,2-Assistant Professor, Research Associate, Department of Obstetrics and Gynecology, Institute of Medical Sciences, Noida

3-Professor, Department of Obstetrics and Gynecology, ESIC Medical College and Hospital, Faridabad

Introduction

The postpartum period is an important phase during which a couple needs a comprehensive package of health services, including contraceptive counseling. Couples are highly motivated and receptive to accepting Family Planning (FP) services at this time. More than 60% of births in India occur in a short inter-conception period, with unmet needs of FP reaching up to 65% in the first postpartum year. [1]

Types of Ppiucd Available in India

There are two types of PPIUCDs available in India:

- Copper-bearing IUCDs (Copper-T 380 A and Multiload 375):
Non-Hormonal PPIUCD
- Progestin-releasing medicated IUCDs releasing levonorgestrel (LNG-IUS-Mirena): **Hormonal PPIUCD**

Mechanism of Action of Non-Hormonal and Hormonal IUD: (Table 1)

Table 1: Describe the mechanism of action of IUD

Copper containing IUDs	Progestin-releasing medicated IUDs
Inhibits sperm migration, ovum transport, and fertilization.	Inhibits ovulation.
It stimulates a sterile foreign body reaction in the endometrium potentiated by copper.	It makes the endometrium unreceptive to implantation.
The IUCD interferes with the ability of sperm to survive and to ascend the fallopian tubes where fertilization occurs.	Creates a thick cervical mucus plug that prevents the entry and ascent of sperms into the endometrial cavity.

Time of Insertion of Ppiucd: (Fig.1)

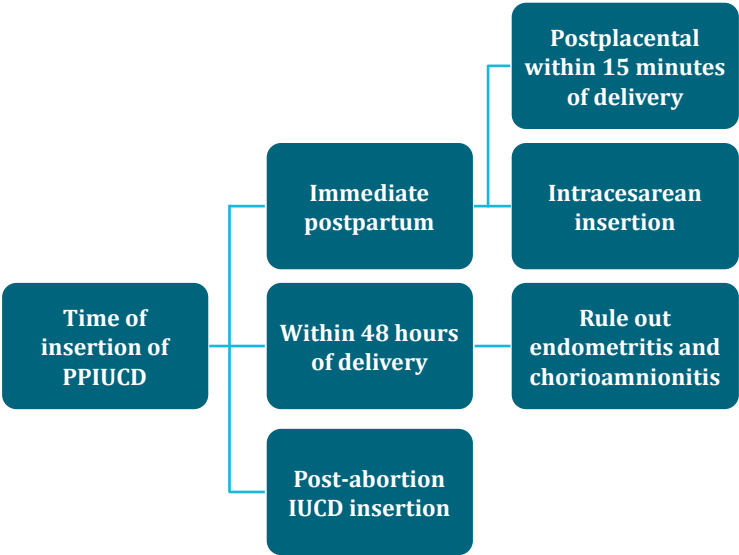


Figure 1. Diagrammatic representation of the time of insertion of PPIUCD

Although the postpartum period is up to 6 weeks, the programmatic definition extends to 12 months. When it comes to contraceptives, we need to provide options to women till 12 months after delivery. Interval IUCD can be considered (both hormonal and non-hormonal) as an effective means of contraception with high efficacy up to 12 months postpartum.

Medical Eligibility Criteria for PPIUCD Insertion: Refer to detailed MEC criteria in Annexure. (Table 2)

Table 2: MEC criteria for IUDs

Category 1	<ol style="list-style-type: none">1. Immediate post-placental2. After delivery <48 hours3. > Six weeks postpartum4. First-trimester abortion
Category 2	Second-trimester abortion
Category 3	<ol style="list-style-type: none">1. Between 48 hours and six weeks postpartum2. Chorioamnionitis3. Prolonged rupture of membranes >18 hours
Category 4	<ol style="list-style-type: none">1. Puerperal sepsis2. Unresolved postpartum hemorrhage3. Immediately post septic abortion

Pre-Insertion Counseling

PPIUCD counseling includes informed two-way communication starting from routine antenatal visits. Special care needs to be installed so that FP services are ensured to all antenatal women well before getting admitted to the labor wards for parturition [2,3]. This is of utmost importance because it will help the staff in the labor wards to get well prepared in terms of the availability of PPIUCD and safely administer them to motivate women following the delivery of the placenta [2,3]. (Fig.2)

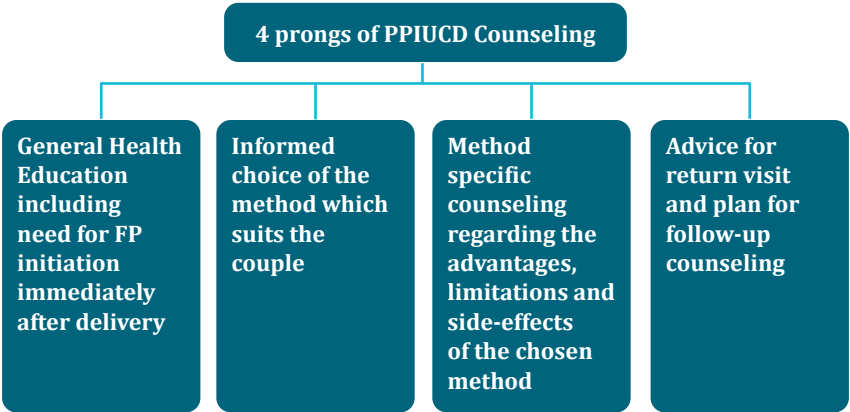


Fig.2: Shows four prongs of PPIUCD counseling

PHASES OF PPIUCD COUNSELING: (Fig.3)

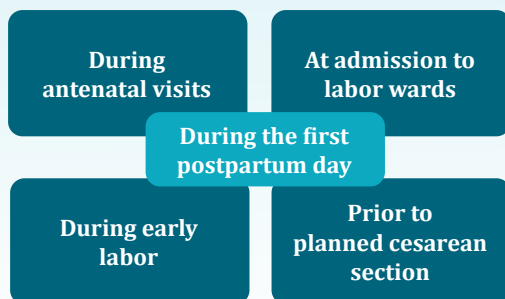


Fig.3: Shows phases of PPIUCD counselling

Post-Insertion Counseling

Following insertion, the health care provider should reinforce the key messages related to PPIUCD and inform the woman regarding follow-up visits. A follow-up card providing all relevant instructions may be given to her at the time of discharge from the hospital. Points to be stressed are the importance of exclusive breastfeeding and assurance that the IUCD does not affect breastfeeding [4]. The women must be informed to return after six weeks for postnatal advice, IUCD check-ups, and newborn care. She can visit the hospital anytime if she has concerns about the insertion, experiencing any warning signs, or if the IUCD has been expelled.

The WARNING SIGNS after PPIUCD insertion will include:

- Heavy vaginal bleeding
- Severe lower abdominal discomfort
- Fever and not feeling well
- Unusual vaginal discharge
- Suspected expulsion: feeling IUCD in the vagina or seeing it expelling out
- Any other problems after delivery

At discharge, the PPIUCD card must contain the following:

- Type of IUCD inserted
- Date of insertion
- Month and year of removal or replacement of IUCD
- Date of postpartum follow-up visit
- Where to go or call if she has problems or questions related to the IUCD

Advantages of PPIUCD

Advantages for the woman:

1. It is a convenient LARC method that saves time and expenses for additional visits
2. It is a relatively safe method
3. The woman and her family are highly motivated for a reliable birth spacing method
4. There is a lesser risk of uterine perforation at the time of insertion
5. Reduced perception of initial side effects like bleeding and cramping
6. There is a lesser chance of heavy bleeding owing to the prevailing lactational amenorrhea method
7. No effect on the quantity or quality of breast milk
8. The woman has an effective method for contraception before discharge from the hospital
9. LNG-IUS has the additional benefit of cycle regulation, decrease in endometriosis, adenomyosis or dysmenorrhoea and premenstrual cramps
10. LNG-IUS can be a good option in women after a pregnancy in midlife or at an advanced age

Advantages for the service provider:

1. It is certain that the woman is not pregnant
2. Saves time and manpower
3. Additional evaluations and separate clinical procedures are not required
4. The need for instruments, supplies, and equipment is minimal
5. Majority of women can be catered to in a limited time and with limited resources

Limitations

1. Increased risk of spontaneous expulsion
2. Chances of infection and endometritis in cases of prolonged rupture of membranes and chorioamnionitis

Tips for Reducing Spontaneous Expulsion: (Table 3)

Table 3: Describe tips for reducing expulsion of IUDs

1. Right technique	a. Elevate the uterus b. Place IUCD at the fundus c. Sweep the instrument (Kelly’s Forceps) through the side of the uterus while removing d. Keep the Kelly’s Forceps closed while going in and open while coming out of the uterine cavity
2. Right instrument	Use an instrument that is long enough to reach the fundus of the uterus.
3. Right time	Post-placental and intra-cesarean insertions have the lowest expulsion rates

Key Points

- PPIUCD is an effective LARC method.
- Considering the high unmet need for contraception in low, middle-income countries, a massive push is required to increase its acceptance in the public domain.

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Short Acting Contraceptive Options

a. Oral Contraceptives: Progestin Only Pills (POPs)

Mikaela Koch, Aparna Sridhar

David Geffen School of Medicine at the University of California Los Angeles

What are POPs: Overview

Progestin-only pills (POPs), commonly referred to as the “mini-pill,” are a type of oral contraceptive that contains only synthetic progestin, without estrogen. Women of all ages can use POPs, which are particularly beneficial for individuals who should avoid additional estrogen, such as those who smoke cigarettes, have high blood pressure, or have a history of blood clots (such as Deep Vein Thrombosis or Pulmonary Embolism). POPs require strict adherence to maintain their effectiveness and do not protect against STD’s including HIV. Perfect use failure rates are as low as 1.1/100 women, yet typical use rates are 9/100 women.

Types of POPs: (Table 1)

Table 1: Describe different types of POPs

Progestin Type	Dosage	Pill Regimen	Pharmacokinetics
Norethindrone	.35mg	Taken daily at the same time each day	Half-life: 8-10 hours Rapidly absorbed with maximum plasma concentrations occurring within 1 to 2 hours after administration. May inhibit ovulation but less consistently than OCPs

Progestin Type	Dosage	Pill Regimen	Pharmacokinetics
Norgestrel	.075mg	Taken daily at the same time each day	Serum progestin levels peak about two hours after oral administration, followed by rapid distribution and elimination. By 24 hours after drug ingestion, serum levels are near baseline.
Drospirenone*	4mg	24/4 regimen: 24 days active pill, four days placebo	Half-life: ~30 hours flexible 24-hour window to catch up on a missed dose. Anti-androgenic properties.
Desogestrel**	.075mg	Taken daily at the same time each day	More consistent ovulation inhibition

(* and ** available in Indian Market)

Mechanism of Action

POPs primarily work by thickening cervical mucus and inducing endometrial changes that prevent fertilization and implantation. They contain roughly $\frac{1}{4}$ the amount of circulating progestin as combined oral contraceptive pills, so they do not always inhibit ovulation. POPs thicken cervical mucus within 2-4 hours of ingestion, impeding sperm from entering the uterus. The impermeability to sperm decreases on average around 22 hours after administration. POPs also alter the endometrial lining, making it less receptive to implantation.

Approximately 40% of women using a standard POP will still ovulate; however, POPs containing desogestrel and drospirenone offer more reliable inhibition of ovulation and, therefore, more flexibility with dosing.

The liver metabolizes POPs, particularly CYP3A4 enzymes. Peak serum levels are reached around 2 hours after ingestion, and levels return to baseline within 24 hours.

Safety of POPs

According to the WHO Medical Eligibility Criteria, most women can safely use POPs, including postpartum women, breastfeeding women, those with HIV, and

those with contraindications to estrogen-containing methods. POPs should not be used by individuals who are pregnant and are not a form of emergency contraception.

Shared decision-making should be used when discussing or prescribing POPs in women with the following conditions:

MEC criteria: Kindly find details in attached Annexure

WHO Category 1

- Post partum non breast feeding
- First Trimester abortion
- Second Trimester abortion
- Immediately post septic abortion

WHO Category 2

- Medications such as NNRTIs like efavirenz, ritonavir-boosted protease inhibitors, and St. John's wort
- Individuals < 6 Weeks Postpartum

WHO Category 3

- Medications that induce CYP3A4 enzymes can reduce POP effectiveness, such as anticonvulsants like phenytoin or antimicrobials such as rifampin

WHO Category 4

- Women with liver tumors, cirrhosis, or active breast cancer

How to use POPs

POPs can be started at any time in an individual's menstrual cycle as long as they are not pregnant (Box 1). If started more than five days after menstrual bleeding, the woman should use backup contraceptive methods for at least 48 hours.

Box 1: How to be reasonably certain that a patient is not pregnant

A healthcare provider can be reasonably certain that a patient is not pregnant if the patient has no symptoms or signs of pregnancy and meets any one of the following criteria:

- Is <7 days after the start of normal menses
- Has not had sexual intercourse since the start of last normal menses
- Has been correctly and consistently using a reliable method of contraception
- Is <7 days after spontaneous or induced abortion
- Is within 4 weeks postpartum
- Is fully or nearly fully breastfeeding (exclusively breastfeeding or the vast majority (>85%) of feeds are breastfeeds), amenorrheic, and <6 months

Many POPs must be taken daily at the same time. However, newer POPs, such as drospirenone, have a flexible 24-hour window to catch up on a missed dose. For those without such flexibility, the dose is considered missed if more than 3 hours have passed since the scheduled time. The woman should take the missed pill immediately and use backup contraception for at least 48 hours. If vomiting or diarrhea occurs within 3 hours of taking a POP, another pill should be taken as soon as possible.

Side Effects (Table 2)

Table 2: Describe side effects of POPs and their management

Side Effect	Description	Management
Changes in menstrual bleeding	There may be changes in menstrual bleeding, including intermenstrual bleeding. 40-50% of users experience regular cycles, 40% experience short or irregular cycles, and 10% may become amenorrheic	Reassure patients that irregular bleeding often decreases over time, particularly with drospirenone.

Side Effect	Description	Management
Ectopic Pregnancy	Lower overall pregnancy and ectopic rates, however, higher absolute rates of ectopic pregnancy compared to other contraceptive methods	Educate patients on the signs and symptoms of ectopic pregnancy.
Follicular Cysts	May develop ovarian cysts	Counsel patient, they often resolve spontaneously without intervention Monitor and provide reassurance if asymptomatic.
Acne	Depending on the type of progestin, some users may experience acne. More common with levonorgestrel	Switch to a progestin with anti-androgenic properties (e.g., Drospirenone) Consider topical or systemic acne treatments.
Mild Nausea, Headaches, Fatigue	Common mild side effects	Encourage taking the pill at the same time daily, preferably with food Symptomatic management (e.g., acetaminophen for headaches)

Advantages

POPs are not known to cause weight changes or increase metabolic or cardiovascular risk factors. POPs are also safe while breastfeeding, do not interfere with milk production, and have not been shown to impact breastfeeding initiation or duration.

Non- contraceptive benefits

POPs impact on cervical mucus and endometrial lining may reduce risks of pelvic infections and endometrial cancer. However, given the relatively small number of POP users, there is limited overall data.

Considerations for Postpartum Use

POPs are an appropriate contraceptive option for postpartum women, especially those who are breastfeeding. POPs can be initiated immediately postpartum and are considered safe during this period. The contraceptive effect of POPs is enhanced by the prolactin-induced suppression of ovulation in breastfeeding women. For women within 21 days postpartum who are not breastfeeding or within six months postpartum if exclusively breastfeeding, additional contraceptive methods are not required after initiating POPs. If menstruation has resumed, backup contraception should be used for the first two days after starting POPs. Notably, POPs are not limited to postpartum breastfeeding women.

Key Points

- POPs are an appropriate contraceptive option for postpartum women, especially those who are breastfeeding.
- POPs are safe in post abortion patients also.
- POPs impact on cervical mucus and endometrial lining may reduce risks of pelvic infections and endometrial cancer.

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Short Acting Contraceptive Options

b. Oral Contraceptives: COCS, ECP & Centchroman

Sunita Singal, Harsha Gaikwad

*Country Lead – Clinical Services and Training-Family Planning, MCGL, Jhpiego
Director Prof, VMMC & SJ Hospital, N Delhi*

Introduction

Oral contraception refers to the methods taken orally to prevent or delay pregnancy. The combined oral contraceptive pill was the first oral contraceptive method and was marketed in 1960. In the following decades, newer methods of oral contraception, such as progestin-only pills and Centchroman (Ormeloxifene) and emergency contraceptive pills, have been popularized. Oral contraceptive methods are highly effective when taken correctly and consistently. They are a popular choice for postpartum contraception.

Combined Oral Contraceptives (COCs) contain low doses of the hormones progestin and estrogen, while Progestin-Only Pills (POPs), also called minipills, contain low doses of the progestin hormone only, allowing breastfeeding women to use them. (Table 1)

Types of Oral Contraceptives

A. Hormonal

- Combined Oral Contraceptive (COC)
- Progestin-Only Pill (POP)
- Levonorgestrel Emergency Contraceptive Pill (ECP)

B. Non-hormonal

- Centchroman (Ormeloxifene)

Table 1: Showing the use of oral pills in the post-partum period

FP METHOD	Post-Partum Period	
	Fully Breastfeeding	Partially/non-breastfeeding
COCs	After six months of delivery, if pregnancy has been ruled out	After six weeks of delivery, if pregnancy has been ruled out
Centchroman (Chhaya)	Immediately/Any time after delivery (irrespective of breastfeeding status) if pregnancy has been ruled out	
POP	Any time after delivery (irrespective of breast-feeding status) if pregnancy has been ruled out	
ECP (Ezy Pill)	Within 72 hours of unprotected intercourse as soon as possible (irrespective of breastfeeding status)	

Combined Oral Contraceptive Pills (COCS)

It comes in a pack of 28 tablets & each strip; 21 are hormonal tablets, and 7 are non-hormonal (iron) tablets. Each hormonal tablet contains Levonorgestrel (0.15mg) and Ethinyl estradiol (30 micrograms).

Mechanism of Action

Inhibit ovulation, thicken cervical mucus, and thin the endometrial lining.

When to Start COCs

Women having menstrual cycle:

- If used within five days of menstrual bleeding, the backup method is unnecessary.
- Any time after five days of menstrual bleeding if it is reasonably sure that she is not pregnant. Backup method (Condom) for first seven days of pills

Breastfeeding women more than six months after giving birth (Table 2)

- In the absence of menstrual bleeding, pills can be started after ruling out pregnancy, and a backup method is needed for seven days.

Women not breastfeeding: (Table 2)

- Less than four weeks after giving birth: Anytime on days 21-28 after childbirth. No backup method

- More than four weeks after giving birth: Anytime when reasonably certain that she is not pregnant. Backup method (condom) for the first seven days.

After miscarriage or abortion:

- Within seven days, no backup method,
- Beyond seven days, when reasonably certain that she is not pregnant, use a backup method (condom) for the first seven days

Major advantages of COCs include the following:

- Are highly effective if taken correctly
- Protect against ovarian and endometrial cancer
- Decrease the risk of ectopic pregnancy.

COCs are not appropriate for the following women:

- Breastfeeding <6 months postpartum
- With suspected pregnancy
- Who smoke >15 cigarettes/day and ≥ 35 years of age
- With liver disease
- With high BP
- With breast cancer
- With DVT
- With heart disease
- With recurrent migraine
- On anticonvulsants

Table 2: Describe Oral contraceptive pill use

Aspect	Breastfeeding Women	Non-Breastfeeding Women
Usage	Generally, it is not recommended in the first six weeks postpartum due to VTE risk [1].	It can be used after three weeks postpartum if there are no VTE risk factors [1].
Missed Pill Management	Take the missed pill as soon as you remember. If missed by more than 24 hours, use backup contraception for seven days [1].	It is the same as breastfeed-ing women.
Side Effects	Nausea, headache, and breast tenderness [1].	Nausea, headache, breast tenderness, increased risk of VTE [1].
Failure Rate	Typical use: 7% [3]; Perfect use: <1% [3].	It is the same as breastfeed-ing women.

Emergency Contraceptive Pill (ECP)

All women can use ECPs safely and effectively, including women who cannot use hormonal contraceptive methods. Due to the short-term nature of their use, there are no medical conditions that make ECPs unsafe for any woman. (Table 3)

Key Points:

- Should be used within 72 hours of unprotected sex (accidental sex or contraceptive accident like condom rupture or missed pills). Sooner it is taken, more effective.
- **Mechanism:** Prevents ovulation, fertilization, or implantation depending on the cycle phase.
- Safe for all women, even for those who cannot use regular hormonal contraceptives, with no known health risks.
- Not appropriate as a regular contraceptive method due to being less effective than other contraceptives, chances of menstrual irregularities
- Does not disrupt an existing pregnancy.
- Provides an opportunity for women to start using a regular contraceptive method

Table 3: Describe ECPs use

Aspect	Breastfeeding Women	Non-Breastfeeding Women
Usage	Safe for use; minimal transfer to breast milk [3].	It can be used at any time postpartum.
Missed Pill Management	Not applicable.	Not applicable.
Side Effects	Nausea, fatigue, headache, dizziness [3].	It is the same as breast-feeding women.
Failure Rate	1-2% [3].	It is the same as breast-feeding women.

Centchroman (Ormeloxifene)

It is a non-steroidal, non-hormonal, and once-a-week pill, which will be available in the public sector as free and ASHA supply (Chhaya).

Key Points:

- It has weak estrogenic action on bones but anti-estrogenic solid action on the uterus and breasts.
- Safe for breastfeeding mothers soon after childbirth.
- Prolongation of the menstruation cycle is the only side effect. It occurs in 8% of cases, usually in the first three months. It makes periods lighter and can help anemic women
- Can be used safely in conditions where hormonal contraceptives are not advised

Mechanism of action

It acts like a selective estrogen receptor modulator (SERM) and has anti-estrogenic effects on the uterus. Creates asynchrony between the developing zygote and endometrial maturation, which prevents implantation of the zygote. It also alters cervical mucus.

How to use it

One pill (30 mg) is taken twice a week for the first three months, followed by once a week after that. Starting in the fourth month, the pill is to be taken once a week on the first pill day and should be continued on the weekly schedule regardless of her menstrual cycle. (Table 4)

Table 4: Description of Centchroman use

Aspect	Breastfeeding Women	Non-Breastfeeding Women
Usage	It can be used for postpartum and breastfeeding women.	It can be used soon after delivery.
Missed Pill Management	Take the missed dose as soon as you remember. If missed by more than 24 hours, use backup contraception for seven days [2].	It is the same as breastfeeding women.
Side Effects	Irregular menstrual cycles, nausea, headache [2].	It is the same as breastfeeding women.
Failure Rate	Typical use: 1-2% [2]; Perfect use: <1% [2].	It is the same as breastfeeding women.

Key Points

- Choosing the right contraceptive method during the postpartum period depends on various factors, including breastfeeding status and individual health conditions.
- Healthcare providers must support clients in making an informed decision tailored to their needs and circumstances.

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Short Acting Contraceptive Options

c. Transdermal Patch And Vaginal Rings

Harsha S Gaikwad, Sunita Singal

Director Professor, Department of Obstetrics and Gynaecology, Vardhman Mahavir Medical College and Safdarjung Hospital, New Delhi, India

Country Lead – Clinical Services and Training-Family Planning, MCGL, Jhpiego

Transdermal Patches

Key Points:

- It is a small, thin plastic patch worn on the body.
- The woman wears a small adhesive patch and replaces it on time.
- Menstrual pattern changes can occur but are generally not harmful.

Types:

- Ethinyl estradiol & Norelgestromin patch (EE/N): Xulane, Zafemy, Evra
- Ethinyl estradiol & Levonorgestrel patch (EE/LNG): Twirla

Application:

- Site: Buttocks, upper outer arm, lower abdomen, back, upper torso (not on breasts).
- Timing: Apply on the same day each week for three weeks, followed by one patch-free week.
- Mechanism of Action: Inhibits ovulation by combining estrogen and progesterone.
- Who Can Use It: Same as Combined Oral Contraceptives (COCs).



Fig.1: Showing Transdermal Patch

Advantages:

- Avoids first-pass liver metabolism.
- Continuous and sustained drug release.
- Unaffected by vomiting and diarrhea.

Side Effects:

- Similar to oral contraceptive pills (OCPs).
- Local skin reactions at the application site.

Contraindications:

- BMI > 30 kg/m²
- Hepatitis C on antiretroviral drugs
- Skin hypersensitivity to any ingredients

Contraceptive Vaginal Rings

There are two types of Vaginal rings:

- Combined Hormonal and
- Progesterone vaginal ring (PVR)

COMBINED HORMONAL VAGINAL RINGS

Key Points:

- Woman places a flexible ring in her vagina and replaces it at the time of maximum effectiveness.
- Bleeding changes are common but not harmful.

Mechanism of Action: Prevents the release of ovum.

Who Can Use It: Eligibility criteria are the same as COCs.

How to Use:

- Insert the ring comfortably (e.g., one leg up, squatting, lying down).
- Nuvaring: Keep the ring in place for three weeks, then remove it for one week.
- Annovera: Insert for three weeks, one week off. It can be reused for 13 cycles

Advantages:

- Avoids first-pass liver metabolism.
- More stable circulating hormone levels.
- Greater safety and improved compliance.

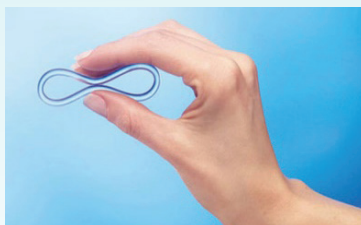


Fig. 2: Showing Nuvaring

Side Effects:

- Vaginal irritation and ulcerations.
- Similar to transdermal patches.

Table 1: Comparing with Combined Oral Contraceptives: Contraceptive Types and Failure Rates

Type	Dose	Preparation Available	Failure Rates	How to Use
Patch	30 mcg EE + 120 mcg LNG	Transdermal patch	7%	Apply weekly for three weeks, one week off. Visible, might detach.
Vaginal Ring	120 mcg/day ENG + 15 mcg/day EE	NuvaRing	1-2%	Insert for three weeks, one week off. The private method might detach.
Vaginal Ring	150 mcg/day SA + 13 mcg/day EE	Annovera	1-2%	Insert for three weeks, one week off. It can be reused for 13 cycles.
Combined Oral Contraceptives (COCs)	Varies	Oral pills	1-2%	Daily intake, GI side effects possible, first-pass liver metabolism.

Table 2: Postpartum and Post-Abortion Use of Patch & Combined Vaginal Rings: WHO Categories

Postpartum (Breastfeeding)	WHO Category
<6 weeks	4
≥ 6 weeks- <6 months	3
≥ 6 months	2
Postpartum (Non-Breastfeeding)	WHO Category
< 21 days	3
With other added VTE risk factors	4
21-42 days	2
With other added VTE risk factors	3
> 42 days	1
Post-Abortion	WHO Category
First Trimester	1
Second Trimester	1
Immediate post-abortion	1

PVR- Progesterone-Only Vaginal Rings

Key points:

1. These are suitable for postpartum women who are breastfeeding at least four times a day
2. Needs self-insertion by the client and timely replacement



Fig.3: Showing Progesterone only Vaginal

It is a soft, flexible silicon ring that releases natural progesterone to prolong lactational amenorrhoea. It can be started after 4-9 weeks of childbirth when she is still amenorrhoeic and has to be kept continuously for 90 days before using the new ring; four such rings are to be used to provide effective contraception for one year.

Mechanism of action: It acts by inhibiting ovulation.

Failure rates: 1-2%

Side effects:

- Spotting
- Irregular bleeding
- Lower abdominal pain
- Breast pain
- Vaginal discharge

Concerns in breastfeeding women: There is no change in breast milk production or composition

How to use the ring: Same as with other vaginal ring use. The ring must be kept in for 90 days continuously to maintain effectiveness. If the woman wants further contraception, then the ring is replaced by a new one immediately after removing the earlier ring. She can use a total of 4 rings to be used three monthly.

Instructions: The ring should never be left out for more than 2 hours. If left out for 24 hours, it should be put back, using a condom as a backup, and contacting a health care provider. If the ring slips out, it should be rinsed with clean water and replaced.

Key Points

- The Transdermal patch and combined hormonal Vaginal rings have the same MEC as the combined Oral contraceptive pills.
- Patches are currently not available in India.
- Combined hormonal rings are available in a few places.
- PVR is suitable for breastfeeding women and is recommended for use for up to one year in breastfeeding women for maximum efficacy.

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Short Acting Contraceptive Options

d. Barrier Methods

Dr Priya Gupta

*Director, Maa & Me Centre, Senior Consultant at KHI & Shriji Hospital
Kota (Rajasthan)*

Introduction

Barrier methods prevent sperm from entering the uterus, thus preventing fertilization and pregnancy. They include condoms, diaphragms, cervical caps, contraceptive gels, contraceptive sponges, and spermicides. Condoms are the only method that also prevents sexually transmitted infections (STIs), including HIV.

Methods

Male Condom

- It is a sheath or covering made to fit over a man's erect penis before penetration. It prevents semen from coming in contact with the cervix and vagina, forming a barrier preventing infections and pregnancy. Made of various materials like latex, lambskin, polyurethane, silicon, or rubber.
- **Usage:** Correct and consistent use is crucial. Apply before penetration, ensure no air bubbles, and dispose of it safely after use.

Female Condom

- Thin, transparent sheaths or linings with flexible rings at both ends that fit loosely inside a woman's vagina, either made up of latex, polyurethane, or nitrile.
- **Usage:** Insert before physical contact, ensure the penis enters the condom, and do not reuse.

Diaphragm

- It is a small, soft, dome-shaped /cup-like device made of rubber, silicone, or latex that covers the cervix as a barrier.
- **Usage:** Requires fitting by a trained provider. Efficacy increases when used with spermicides.

Cervical Cap

- Similar to diaphragms but smaller and rigid, it fits tightly over the cervix, held in place by suction and vaginal tone. It is less effective in parous women.
- **Usage:** Requires fitting by a trained provider. Avoid use during menstruation.

Spermicides

- Foams, creams, and suppositories that provide a chemical barrier to sperm by inactivating and damaging the sperm on contact. Nonoxynol-9 is the most typical chemical agent used.
- **Usage:** works effectively when used with other barrier methods.

Contraceptive Gel

- Changes vaginal pH to prevent sperm viability.
- **Usage:** Works better with other barrier methods

Contraceptive Sponge

- Polyurethane sponge with sustained release system for spermicide.
- **Usage:** Inserted deep into the vagina before intercourse, offering spontaneity. Not reusable. It may enhance HIV transmission by damaging vaginal mucosa.

Table 1: Describe instructions for the use of different barrier methods

Insertion before coitus, no longer than After coitus, it should be left in place for Maximum wear time	Instructions for the use of different barrier methods			
	Female condom	Diaphragm	Cervical cap	Sponge
	8hrs	6hrs	40hrs	24hrs
	6hrs	6hrs	6hrs	6hrs
	8hrs	24hrs	48hrs	30hrs

Table 2: Shows the efficacy of different barrier methods

Efficacy	Perfect Use	Typical Rate
Male condom	2%	13%
Female condom	5%	21%
Diaphragm	16%	17%
Cervical Cap	9% (nullipara) 26% (parous)	16% (nullipara) 32% (parous)
Spermicides	16%	21%
Contraceptive Gel	7%	14%
Contraceptive Sponge	9% (nullipara) 20% (parous)	16% (nullipara) 32% (parous)

Advantages of Barrier Methods

- Safe, non-hormonal.
- Can be used without a prescription.
- No delay in the return of fertility.
- Protects against pregnancy and STIs.
- Suitable for lactating mothers.

Disadvantages of barrier methods

- Allergic reactions.
- Requires motivation and correct usage.
- Diaphragms and cervical caps do not protect against HIV/AIDS.
- Urinary tract infections are reported with the use of diaphragm and spermicides.

Contraindications

- Severe latex allergy.
- History of toxic shock syndrome is a contraindication to diaphragm and cervical cap use.
- Mullerian anomalies of the genital tract.

Table 3: Postpartum and Post-abortion Use of Barrier Methods

Timing	Condom	Diaphragm & cervical cap	Spermicides, contraceptive gels, sponges
Postpartum	MEC 1	Used after six weeks post-partum once uterine involution is complete	Spermicides and gels can be used immediately after childbirth. Sponge to be used six weeks postpartum
First-trimester abortion	MEC 1 Offers dual protection from STIs	It can be used immediately after first-trimester abortion, requires fitting by the provider, and is used with a condom for STI prevention.	Spermicides and gels sponges can be used immediately after first-trimester abortion.
Second-trimester abortion	MEC 1 Offers dual protection from STIs	Used after six weeks of post-second-trimester abortion	Spermicides and gels can be used immediately after second-trimester abortion, and sponges are to be used after six weeks.

Key Points

- Barrier methods are effective and safe options for contraception in the immediate postpartum period and after both first and second-trimester abortions.
- They provide flexibility and can be used without affecting the healing process.
- Consistent and correct use is essential to maximize their effectiveness.

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Permanent Methods of Contraception

Neha Varun, Puja Singh

Associate Professor, Senior Resident

Department of Obstetrics & Gynecology, AIIMS, Delhi

Introduction

Sterilization is a permanent method of birth control. Sterilization procedures for women are called tubal sterilization or female sterilization. The procedure for men is called vasectomy. It is considered one of the most effective forms of birth control, with a failure rate of less than 1%.

A couple must be counseled adequately before any permanent procedure is undertaken. The individual procedure must be discussed regarding benefits, risks, side effects, failure rate, and reversibility.

Types of Permanent Methods

Male sterilization: Vasectomy [1]

It is a permanent sterilization operation done in the male where a segment of vas deferens on both sides is resected, and the cut ends are ligated.

Selection of candidates: Sexually active and psychologically adjusted male having the desired number of children. The written consent of the person is obtained following counseling.

Eligibility of Vasectomy Clients

- Clients should be at least 22 years old.
- Clients should be below the age of 60 years.
- Clients should be ever-married.
- The couple should have at least one child whose age is above one year unless the sterilization is medically indicated.
- Clients or their spouses must not have undergone sterilization in the past (not applicable in the cases of failure of previous sterilization).

- Clients must be in a sound state of mind to understand the full implications of sterilization.
- Mentally ill clients must be certified by a psychiatrist, and a statement should be given by the legal guardian/spouse regarding the soundness of the client's state of mind.

Procedure: It involves surgically cutting and sealing the vas deferens. The procedure is usually performed under local anesthesia and can be done through a small incision or using a no-scalpel technique.

This procedure is associated with various benefits and a few risks. (Box 1)

Box 1: Describe multiple benefits and risks associated with vasectomy.

Benefits

- Relatively simple procedure with a short recovery time compared to female sterilization methods.
- It is also less invasive and generally less expensive than tubal ligation.
- The operation can be done as an outpatient procedure.
- Failure rate is minimal, 1 in 2,000 after ten years, and there is a fair chance of success of reversal anastomosis operation.
- The overall expenditure on equipment, hospital stay, and doctor's training is minimal.

Risks

- Complications are rare but can include wound sepsis, which may lead to scrotal cellulitis or abscess, scrotal hematoma.
- Sperm granuloma is due to an inflammatory reaction to sperm leakage.
- Chronic intra-scrotal pain and discomfort (post-vasectomy syndrome).
- There is also a risk of the vas deferens rejoining over time, leading to potential failure of the procedure.
- Additional contraceptive protection is needed for about 2–3 months following operations.

No-Scalpel Vasectomy (NSV): It is commonly done at present in India. The operation is done as an outdoor procedure. The procedure is done under local anesthetic. Heavy work or cycling is restricted for about two weeks, while usual activities can be resumed.

For a checkup, the patient should report back after one week or earlier if he has any complaints. The client should use another method of contraception for at least three months following vasectomy or until the semen analysis shows no sperm. The client should use a condom if his wife/ partner is not using contraception.

Female sterilization: Tubal Ligation [2]

Procedure: It is a permanent sterilization operation done in the female by occluding both fallopian tubes. It is the most popular method of terminal contraception all over the world. There are different periods when this surgery can be performed. (Box 2)

Box 2: Time periods when ligation can be performed

Women's Situation	When to Perform
Having Menstrual Cycle	<ul style="list-style-type: none"> Any time within seven days of the start of her menstrual bleeding. Any time of the menstrual cycle, provided it is reasonably sure that she is not pregnant.
Switching from another method	<ul style="list-style-type: none"> OCP: This is to be done at any time, but she can continue the pill until the pack is finished to maintain her regular cycle. IUCD: To be done any time, concurrently with the removal of IUCD
No monthly Menstrual bleeding	<ul style="list-style-type: none"> Any time, provided it is reasonably sure that she is not pregnant.
After Childbirth	<ul style="list-style-type: none"> Within seven days after giving birth (only Post-Partum Minilap Tubectomy can be performed) Any time six weeks or more after childbirth if it is reasonably sure that she is not pregnant. (Interval Sterilization)

Women's Situation	When to Perform
After MTP	<ul style="list-style-type: none"> • Concurrently with surgical MTP or within seven days post-MTP. • In the case of Medical Abortion, the tubectomy should be done after the next menstrual cycle. • Laparoscopic tubal occlusion procedure can be performed only in MTPs up to 12 weeks of gestation.
After Miscarriage or abortion	<ul style="list-style-type: none"> • Within seven days if there are no complications.
After using Emergency Contraceptive Pills (ECPs)	<ul style="list-style-type: none"> • Within seven days after the start of her subsequent monthly bleeding or any other time if it is reasonably sure that she is not pregnant.
If there is no medical reason to delay, a woman can have the female sterilization procedure any time she wants if it is reasonably sure that she is not pregnant.	

Methods: Resection of a segment of the fallopian tubes or occlusion of the tubes with rings or clips or electrocoagulation using a laparoscope.

This can be achieved through several approaches, including abdominal or vaginal.

1. Abdominal

- **Laparoscopic tubal ligation:** Laparoscopy is the common method of endoscopic sterilization. The procedure is mainly done under general anesthesia. The operation is done in the interval period, concurrent with vaginal termination of pregnancy or six weeks following delivery. It should not be done within six weeks following delivery. The tubes are occluded by a silastic ring (fallope rings) or filshie clips (made of titanium lined with silicone rubber). The failure rate is 0.1%. In electrosurgical methods, tubes are desiccated by heating. Unipolar or bipolar method of tubal coagulation is used. Bipolar cautery is safer than unipolar cautery, but it has higher failure rates.
- **Postpartum tubal Ligation:** Performed within seven days following childbirth or concurrent with cesarean section. The operation can be done under general spinal or local anesthesia.

The various techniques are (a) Pomeroy's: Advantages are that it is easy, safe, and very effective despite the simplicity of the method. The failure rate is 0.1–0.5%. (b) Uchida technique: No failure has been observed so far with this method. (c) Irving method, (d) Madlener technique: It is the easiest method. The failure rate is very high to the extent of 7%; hence, it is abandoned in preference to the Pomeroy's technique. (e) Kroener's method of fimbriectomy is not a standard procedure.

2. Vaginal

- Tubectomy through the vaginal route may be done; the approach to the tube is through posterior colpotomy. The surgeon needs the additional skills in vaginal surgery. Interval cases (uterus < 12 weeks) are most suited. It is done under general or spinal anesthesia. It takes a longer time. Laparotomy may sometimes be needed due to difficulties. It is associated with various complications like hemorrhage, broad ligament hematoma, and rarely rectal injury. Dyspareunia may be a late complication. It is associated with advantages like short hospital stays and convenience for obese women.
- **Hysteroscopic Sterilization** is a method in which a device is inserted into the fallopian tubes through the cervix and uterus, causing scar tissue to form and block the tubes over time. The Essure micro-insert has a fine stainless-steel inner coil enclosed in polyester fibers and an expandable outer coil of Nitinol, a nickel and titanium alloy. The outer coil expands after placement, allowing the inner fibers to expand. These synthetic fibers incite a chronic inflammatory response to prompt local tissue ingrowth, leading to complete tubal lumen occlusion.

Benefits: Tubal ligation is highly effective, with a failure rate of about 0.5%. It offers a permanent solution for those who do not desire children in the future.

Risks: Chronic pelvic pain, congestive dysmenorrhea, menorrhagia, hypomenorrhea, or irregular periods.

Pelvic pain, menorrhagia, and cystic ovaries constitute a post-ligation syndrome. It may be vascular in origin. However, the incidence can be minimized if the blood vessels adjacent to the mesosalpinx are not unduly disturbed. There is also a small risk of ectopic pregnancy if sterilization fails. (Box 3)

Box 3: Describe failure rates of different methods of female sterilization

Failure rate
<ul style="list-style-type: none"> Overall failure rate: 0.7% Pomeroy's technique: 0.1–0.5% (Lowest) Madlener's technique: 1.5–7% Laparoscopic sterilization: Electrocoagulation: unipolar 0.75%, bipolar 2.1%, Fallope ring 1.7%, and Filshie clip 0.1% *The failure rate is increased when it is done during hysterotomy or cesarean section. *Failure may be due to fistula formation or due to spontaneous re-anastomosis.

Reversibility: Couples must understand the procedure's permanency, its occasional failure rate, the risks and side effects, and its alternatives. Microsurgical techniques give excellent results for tubal reanastomosis. Pregnancy rates after reversal are high (80%) following the use of clips and rings. Reversal of vasectomy with restoration of vas patency is possible in up to 90% of cases, but the pregnancy rate is low (50%).

MEC for female sterilization: [3]

Condition	Category
Breast Feeding	A
Post-partum	
< 7 days	A
7 to < 42 days	D
≥ 42 days	A
Post-abortion	
Uncomplicated	A
Post-abortal sepsis or fever	D
Severe post-abortal hemorrhage	D
Severe trauma to the genital tract: cervical or vaginal tear at the time of abortion	D
Post Ectopic Pregnancy	A

*A: Accept, C: Caution, D: Delay, S: Special

Key Points

- Sterilization is a permanent method of contraception.
- It is considered one of the most effective forms of birth control, with a failure rate of less than 1%.
- The operation done on the male is vasectomy, and that on the female is tubal occlusion, or tubectomy.
- Failure rate of Vasectomy is minimal, 1 in 2,000 after ten years.
- Overall failure rate of female sterilization is 0.7%.

References

1. *Reference Manual for Male Sterilization. Family Planning Division Ministry of Health and Family Welfare Government of India. October 2013*
2. *Reference manual for female sterilization, Family Planning Division Ministry of Health and Family Welfare Government of India. November 2014.*
3. *Standards for Female and Male Sterilization Services, Research Studies & Standards Division Ministry of Health and Family Welfare Government of India October 2006.*

Artificial Intelligence in In Contraception

Dr Ashwini Kale

Director ASHA Kiran Hospital, National coordinator FOGSI FW committee

Overview & Introduction

Artificial Intelligence (AI) is revolutionising the landscape of contraception, offering innovative solutions beyond traditional birth control methods, showcasing advancements in personalised fertility tracking, non-hormonal alternatives, and enhanced reproductive health awareness. (Box 1)

The ability of AI to quickly and accurately analyse complicated medical data with super-human precision and consistency is one of the key applications of AI in healthcare that is gaining popularity.

Box 1: Describe possible roles of AI in contraception

Possible roles of AI in contraception

- Remote Consultations
- Population modelling
- Personalized Fertility Tracking
- Non-Hormonal Contraceptive Alternatives
- Smart Contraceptive Devices
- Reproductive Health Education
- Predictive Contraceptive Health Monitoring
- User-Friendly Contraception Apps
- Adaptive Contraception Plans

Remote consultation

AI-powered chatbots make remote consultations possible. Virtual assistants may offer family planning services through remote consultations, making it simpler and more convenient for consumers to access contraception-related information.

Population modelling

AI can analyse demographic information and forecast population trends according to contraceptive usage, which can assist governments and other organisations in developing and implement successful family planning policies.

AI Tool Helps Women Find the Right Hormonal Contraceptive

In the UK, a medical technology startup, Pexxi, uses genetic testing and artificial intelligence (AI) to help women find hormonal contraceptives that complement their unique biological profiles. [1]

- It conducts a personal assessment of each patient.
- This chatbot asks a series of questions designed to identify common risk factors and red flags that might rule out certain types of birth control.
- Then, patients can order an at-home genetic and hormonal testing kit from Pexxi to assess their natural progesterone and estrogen levels.
- Finally, a machine learning algorithm is used to map the test results onto an index of hormonal contraceptives, offering women recommendations based on which birth control pill will be least likely to trigger unpleasant side effects and complications.
- Pexxi also offers ongoing monitoring services to help women track the effects of the pill over time. If changes in their health affect their response to one type of birth control pill, Pexxi can offer alternative suggestions as well.

AI-driven fertility tracking-Precision in Conception Planning

- Goes beyond traditional methods.
- Offering precise insights into the menstrual cycle.
- Analyzing factors such as basal body temperature, cervical mucus patterns, and hormonal fluctuations.
- Personalized predictions of fertility windows.
- Empowers individuals or couples with accurate information for conception planning or contraception.

AI-powered options: Non-Hormonal Contraceptive Alternatives

By analysing data related to fertility indicators and reproductive health, AI can assist in identifying non-hormonal methods tailored to individual preferences and health considerations. This innovation provides more choices for individuals seeking effective and hormone-free contraception options.

Reproductive Health Education: AI-Powered Awareness Platforms

- AI plays a pivotal role in reproductive health education. [3,4]
- AI-powered platforms offer personalised information on contraception methods, sexual health, and fertility awareness.
- Natural Language Processing (NLP) capabilities enable interactive and tailored conversations, fostering a deeper understanding of contraception options and promoting informed decision-making.

Predictive Contraceptive Health Monitoring: Early Detection

- AI contributes to predictive health monitoring for contraceptive purposes.
- By analysing health data related to reproductive health, AI algorithms can detect subtle changes that may impact contraceptive effectiveness.
- This early detection allows individuals to make informed decisions about adjusting their contraceptive methods or seeking additional support.

User-Friendly Contraception Apps: Accessibility and Engagement

- Provide user-friendly interfaces for individuals to track and manage their reproductive health.
- Offer features such as cycle tracking, fertility predictions, and reminders for contraceptive methods.
- Enhance accessibility and engagement, encouraging consistent use and promoting the effectiveness of contraception methods.

Intelligence

- The Population Foundation of India created SnehAI, the nation's first Hinglish (Hindi + English) AI chatbot, considering social and behavioural trends in India.
- While offering a concealed, friendly, and comfortable setting to encourage conversations about taboo subjects (including safe sex and family planning), it gives factual, practical, and reliable information and resources.
- SnehAI is an inventive, entertaining, and instructive solution that enables communication and education about sensitive and important topics for at-risk and hard-to-reach demographic groups.
- It is a powerful illustration of the essential potential of AI technologies to advance societal good.

FOGSI Family Welfare Committee AI aided App launched in 2023

- AI and Machine Learning apps can be instrumental in choosing the best possible contraceptive option for a couple
- WHO and UK-MEC criteria have been utilised to design AI-aided apps
- Contraceptive chatbots can give feedback and help advise in particular situations. [2]

Smart Contraceptive Devices: AI-Enhanced Condoms and Diaphragms

- Traditional contraceptive devices are evolving with AI enhancements.
- Smart condoms and diaphragms with AI technology can provide real-time feedback on usage, effectiveness, and potential risks.
- These devices offer a more connected and personalised approach to contraception, ensuring users have the information they need for optimal effectiveness.

Adaptive Contraception Plans: Tailored to Individual Lifestyles

- AI allows for creating adaptive contraception plans that cater to individual lifestyles.
- By analysing user behaviour, preferences, and health data, AI algorithms can dynamically adjust contraception recommendations.
- This ensures that contraceptive plans align with the unique needs and preferences of each user, optimising effectiveness and user satisfaction

AI could revolutionise many aspects of healthcare, including family planning. Digital innovations have generated unparalleled opportunities to improve voluntary family planning methods/programmes. The application of AI to improve decision-making and gain fresh perspectives on family planning may significantly impact programmes, services, and users.

AI can help policymakers make decisions by analysing complicated data sets, simulating various scenarios, and recommending methods supported by available research. This could assist decision-makers in developing policies based on data-driven insights and well-informed decisions.

Key Points

- Many aspects of healthcare, including family planning, could be revolutionised by AI.
- Artificial intelligence (AI) can improve contraception in many ways, including analysing health data, fertility tracking, and genetic testing. AI can also help create smart contraceptive devices, reproductive health education, Apps, contraception plans, and remote consultations.
- AI-driven online platforms, chatbots, and smartphone apps can deliver precise and individualised information about contraception, reproductive health, and related topics.

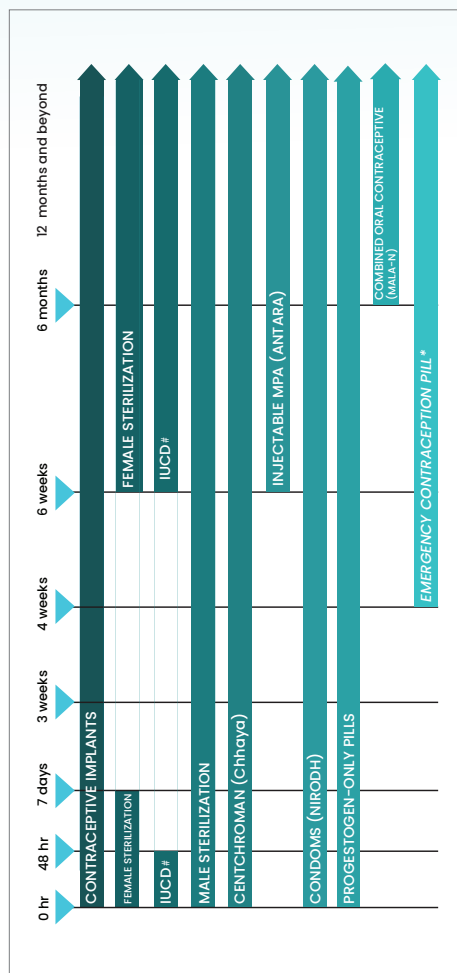
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2. Mills R, Mangone ER, Lesh N, Jayal G, Mohan D, Baraitser P. Chatbots That Deliver Contraceptive Support: Systematic Review. *J Med Internet Res*. 2024 Feb 27;26:e46758.
3. Tamrat T, Zhao Y, Schalet D, AlSalamah S, Pujari S, Say L. Exploring the Use and Implications of AI in Sexual and Reproductive Health and Rights: Protocol for a Scoping Review. *JMIR Res Protoc*. 2024 Apr 9;13:e53888.
4. *The role of artificial intelligence in sexual and reproductive health and rights. Technical brief.* ISBN 978-92-4-009070-5, WHO 2024.

PPFP options chart for breast feeding women



TIME OF INITIATION OF POSTPARTUM FAMILY PLANNING METHODS FOR BREASTFEEDING WOMEN

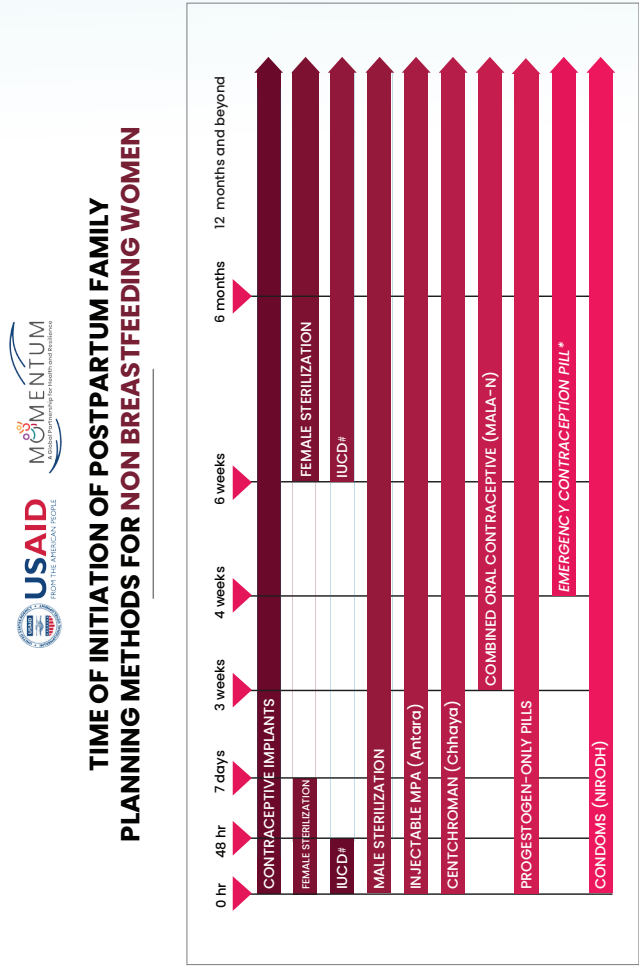


* This pill is to be used only in an emergency. For regular contraceptive use, take advice from ANM/Doctor at government health centre # 380A & 375

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Adapted from WHO 2013, Programming strategies for postpartum family planning

PPFP options chart for Non breast feeding women



* This pill is to be used only in an emergency. For regular contraceptive use, take advice from ANM/Doctor at government health centre # 380A & 375

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Adapted from WHO 2013, Programming strategies for postpartum family planning

WHO MEC 2022

ANNEXURE C

Medical Eligibility Criteria for Contraceptive Use

The table on the following pages summarizes the World Health Organization *Medical Eligibility Criteria for Contraceptive Use*, fifth edition (2015). These criteria are the basis for the Medical Eligibility Criteria checklists in most chapters of this Handbook on family planning methods. These checklists are based on the 2-level system for providers with limited clinical judgment (see table below). The checklist questions address conditions in MEC categories 3 or 4 that the woman knows of. The boxes “Using Clinical Judgment in Special Cases” list conditions that are in MEC category 3: The method can be provided if other, more appropriate methods are not available or acceptable to the client, and a qualified provider can carefully assess the specific woman’s condition and situation.

Categories for Temporary Methods

Category	With Clinical Judgment	With Limited Clinical Judgment
1	Use method in any circumstances	Yes (Use the method)
2	Generally use method	
3	Use of method not usually recommended unless other more appropriate methods are not available or not acceptable	No (Do not use the method)
4	Method not to be used	

Note: In the table beginning on the next page, category 3 and 4 conditions are shaded to indicate that the method should not be provided where clinical judgment is limited. Categories that are new or changed since the 2011 edition of this Handbook are shown in **bold type**.

For vasectomy, male and female condoms, spermicides, diaphragms, cervical caps, and the lactational amenorrhea method, see pp. 429–431. For fertility awareness methods, see p. 431.

Categories for Female Sterilization and Vasectomy

Accept (A)	There is no medical reason to deny the method to a person with this condition or in this circumstance.
Caution (C)	The method is normally provided in a routine setting, but with extra preparation and precautions.
Delay (D)	Use of the method should be delayed until the condition is evaluated and/or corrected. Alternative, temporary methods of contraception should be provided.
Special (S)	The procedure should be undertaken in a setting with an experienced surgeon and staff, equipment needed to provide general anesthesia, and other backup medical support. The capacity to decide on the most appropriate procedure and anesthesia support also is needed. Alternative, temporary methods of contraception should be provided if referral is required or there is otherwise any delay.

<div><div></div></div>	= Use the method									
<div><div></div></div>	= Do not use the method									
<div><div>I</div></div>	= Initiation of the method									
<div><div>C</div></div>	= Continuation of the method									
<div><div></div></div>	= Condition not listed; does not affect eligibility for method									
NA = Not applicable										
Condition	Combined oral contraceptives	Monthly injectables	Combined patch and combined vaginal ring	Progestin-only pills	Progestin-only injectables	Implants	Emergency contraceptive pills *	Copper-bearing intrauterine device	Levonorgestrel intrauterine device	Female sterilization *
PERSONAL CHARACTERISTICS AND REPRODUCTIVE HISTORY										
Pregnant	NA	NA	NA	NA	NA	NA	NA	4	4	D
Age	Menarche to < 40 years			Menarche to < 18 years			Menarche to < 20 years		Young age	
	1	1	1	1	2	1	—	2	2	C
	≥ 40 years			18 to 45 years			≥ 20 years			
	2	2	2	1	1	1	—	1	1	
				> 45						
				1	2	1	—			
Parity										
Nulliparous (has not given birth)	1	1	1	1	1	1	—	2	2	A
Parous (has given birth)	1	1	1	1	1	1	—	1	1	A
Breastfeeding										
< 6 weeks postpartum	4	4	4	2	3 ^a	2	1 UPA=2	b	b	*
≥ 6 weeks to < 6 months postpartum (primarily breastfeeding)	3	3	3	1	1	1	1 UPA=2	b	b	A
≥ 6 months postpartum	2	2	2	1	1	1	1 UPA=2	b	b	A
Postpartum (not breastfeeding)										
< 21 days	3	3	3	1	1	1	—	b	b	*
With other added VTE risk factors	4	4	4							
21–42 days	2	2	2	1	1	1	—	b	b	
With other added VTE risk factors	3	3	3							
> 42 days	1	1	1	1	1	1	—	1	1	A
Postabortion										
First trimester	1	1	1	1	1	1	—	1	1	*
Second trimester	1	1	1	1	1	1	—	2	2	
Immediate post-septic abortion	1	1	1	1	1	1	—	4	4	

* For additional conditions relating to emergency contraceptive pills and female sterilization, see p. 429.

(Continued)

^a In settings where pregnancy morbidity and mortality risks are high and this method is one of few widely available contraceptives, it may be made accessible to breastfeeding women immediately postpartum.

^b Postpartum IUD use: For the copper-bearing IUD, insertion at <48 hours is category 1. For the LNG-IUD, insertion at <48 hours is category 2 for breastfeeding women and category 1 for women not breastfeeding. For all women and both IUD types, insertion from 48 hours to <4 weeks is category 3; ≥4 weeks, category 1; and puerperal sepsis, category 4.

<input type="checkbox"/>	= Use the method									
<input type="checkbox"/>	= Do not use the method									
I	= Initiation of the method									
C	= Continuation of the method									
<input type="checkbox"/>	= Condition not listed; does not affect eligibility for method									
NA = Not applicable										
Condition	Combined oral contraceptives	Monthly injectables	Combined patch and combined vaginal ring	Progestin-only pills	Progestin-only injectables	Implants	Emergency contraceptive pills*	Copper-bearing intrauterine device	Levonorgestrel intrauterine device	Female sterilization*
Past ectopic pregnancy	1	1	1	2	1	1	1	1	1	A
History of pelvic surgery	1	1	1	1	1	1	—	1	1	C*
Smoking										
Age < 35 years	2	2	2	1	1	1	—	1	1	A
Age ≥ 35 years										
<15 cigarettes/day	3	2	3	1	1	1	—	1	1	A
≥15 cigarettes/day	4	3	4	1	1	1	—	1	1	A
Obesity										
≥ 30 kg/m ² body mass index	2	2	2	1	1 [†]	1	1	1	1	C
Blood pressure measurement unavailable	NA ^c	NA ^c	NA ^c	NA ^c	NA ^c	NA ^c	—	NA	NA	NA
CARDIOVASCULAR DISEASE										
Multiple risk factors for arterial cardiovascular disease (older age, smoking, diabetes, and hypertension)	3/4 ^d	3/4 ^d	3/4 ^d	2	3	2	—	1	2	S
Hypertension^e										
History of hypertension, where blood pressure CANNOT be evaluated (including hypertension in pregnancy)	3	3	3	2 ^c	2 ^c	2 ^c	—	1	2	NA
Adequately controlled hypertension, where blood pressure CAN be evaluated	3	3	3	1	2	1	—	1	1	C
Elevated blood pressure (properly measured)										
Systolic 140–159 or diastolic 90–99	3	3	3	1	2	1	—	1	1	C ^f
Systolic ≥ 160 or diastolic ≥ 100 ^e	4	4	4	2	3	2	—	1	2	S ^f

[†] From menarche to age <18 years, ≥30 kg/m² body mass index is category 2 for DMPA, category 1 for NET-EN.

^c In settings where pregnancy morbidity and mortality risks are high and this method is one of few widely available contraceptives, women should not be denied access simply because their blood pressure cannot be measured.

^d When multiple major risk factors exist, any of which alone would substantially increase the risk of cardiovascular disease, use of the method may increase her risk to an unacceptable level. However, a simple addition of categories for multiple risk factors is not intended. For example, a combination of factors assigned a category 2 may not necessarily warrant a higher category.

^e Assuming no other risk factors for cardiovascular disease exist. A single reading of blood pressure is not sufficient to classify a woman as hypertensive.

^f Elevated blood pressure should be controlled before the procedure and monitored during the procedure.

<input type="checkbox"/>	= Use the method											
<input type="checkbox"/>	= Do not use the method											
I	= Initiation of the method											
C	= Continuation of the method											
—	= Condition not listed; does not affect eligibility for method											
NA = Not applicable												
Condition	Combined oral contraceptives	Monthly injectables	Combined patch and combined vaginal ring	Progestin-only pills	Progestin-only injectables	Implants	Emergency contraceptive pills*	Copper-bearing intrauterine device	Levonorgestrel intrauterine device	Female sterilization*		
Vascular disease	4	4	4	2	3	2	—	1	2	S		
History of high blood pressure during pregnancy (where current blood pressure is measurable and normal)	2	2	2	1	1	1	—	1	1	A		
Deep venous thrombosis (DVT)/Pulmonary embolism (PE)												
History of DVT/PE	4	4	4	2	2	2	*	1	2	A		
Acute DVT/PE	4	4	4	3	3	3	*	1	3	D		
DVT/PE and on anticoagulant therapy	4	4	4	2	2	2	*	1	2	S		
Family history of DVT/PE (first-degree relatives)	2	2	2	1	1	1	*	1	1	A		
Major surgery												
With prolonged immobilization	4	4	4	2	2	2	—	1	2	D		
Without prolonged immobilization	2	2	2	1	1	1	—	1	1	A		
Minor surgery without prolonged immobilization	1	1	1	1	1	1	—	1	1	A		
Known thrombogenic mutations (e.g., factor V Leiden, prothrombin mutation; protein S, protein C, and antithrombin deficiencies) [§]	4	4	4	2	2	2	*	1	2	A		
Superficial venous disorders												
Varicose veins	1	1	1	1	1	1	—	1	1	A		
Superficial venous thrombosis	2	2	2	1	1	1	—	1	1	A		
Ischemic heart disease[§]												
Current				I	C		I	C		I	C	
History of	4	4	4	2	3	3	2	3	*	1	2	3
Stroke (history of cerebrovascular accident) [§]	4	4	4	2	3	3	2	3	*	1	2	C
Known dyslipidemias without other known cardiovascular risk factors^h	2	2	2	2	2	2	—	1	2	A		

(Continued)

[§] This condition may make pregnancy an unacceptable health risk. Women should be advised that because of relatively higher pregnancy rates, as commonly used, spermicides, withdrawal, fertility awareness methods, cervical caps, diaphragms, or female or male condoms may not be the most appropriate choice.

^h Routine screening is not appropriate because of the rarity of the condition and the high cost of screening.

<div><div></div> = Use the method</div> <div><div></div> = Do not use the method</div> <div><div>I</div> = Initiation of the method</div> <div><div>C</div> = Continuation of the method</div> <div><div></div> = Condition not listed; does not affect eligibility for method</div> <div>NA = Not applicable</div>	Combined oral contraceptives	Monthly injectables	Combined patch and combined vaginal ring	Progestin-only pills	Progestin-only injectables	Implants	Emergency contraceptive pills*	Copper-bearing intrauterine device	Levonorgestrel intrauterine device	Female sterilization*		
Condition												
Valvular heart disease												
Uncomplicated	2	2	2	1	1	1	—	1	1	C [†]		
Complicated ^{‡,§}	4	4	4	1	1	1	—	2 [†]	2 [†]	S*		
Systemic lupus erythematosus						I	C		I	C		
Positive (or unknown) antiphospholipid antibodies	4	4	4	3	3	3	3	—	1	1	3	S
Severe thrombocytopenia	2	2	2	2	3	2	2	—	3	2	2	S
Immunosuppressive treatment	2	2	2	2	2	2	2	—	2	1	2	S
None of the above	2	2	2	2	2	2	2	—	1	1	2	C
NEUROLOGICAL CONDITIONS												
Headaches [†]	I	C	I	C	I	C	I	C	I	C	I	C
Nonmigrainous (mild or severe)	1	2	1	2	1	2	1	1	1	1	1	A
Migraine									2			
Without aura	I	C	I	C	I	C	I	C	I	C	I	C
Age < 35	2	3	2	3	2	3	1	2	2	2	2	A
Age ≥ 35	3	4	3	4	3	4	1	2	2	2	2	A
With aura, at any age	4	4	4	4	4	4	2	3	2	3	2	A
Epilepsy	1 ^k	1 ^k	1 ^k	1 ^k	1 ^k	1 ^k	1 ^k	—	1			C
DEPRESSIVE DISORDERS												
Depressive disorders	1 [†]	1 [†]	1 [†]	1 [†]	1 [†]	1 [†]	1 [†]	—	1	1 [†]		C
REPRODUCTIVE TRACT INFECTIONS AND DISORDERS												
Vaginal bleeding patterns											I	C
Irregular pattern without heavy bleeding	1	1	1	2	2	2	2	—	1	1	1	A
Heavy or prolonged bleeding (including regular and irregular patterns)	1	1	1	2	2	2	2	—	2	1	2	A
Unexplained vaginal bleeding (suspicious for serious condition), before evaluation	2	2	2	2	3	3	3	—	I	C	I	C
									4	2	4	2
Endometriosis	1	1	1	1	1	1	1	—	2	1		S
Benign ovarian tumors (including cysts)	1	1	1	1	1	1	1	—	1	1		A
Severe dysmenorrhea	1	1	1	1	1	1	1	—	2	1		A

[†] Pulmonary hypertension, atrial fibrillation, history of subacute bacterial endocarditis.

[‡] Prophylactic antibiotics are advised before providing the method.

[§] Category is for women without any other risk factors for stroke.

^k If taking anticonvulsants, refer to section on drug interactions, p. 428.

[†] Certain medications may interact with the method, making it less effective.

	Combined oral contraceptives	Monthly injectables	Combined patch and combined vaginal ring	Progestin-only pills	Progestin-only injectables	Implants	Emergency contraceptive pills*	Copper-bearing intrauterine device	Levonorgestrel intrauterine device	Female sterilization*		
<div><div></div></div> = Use the method												
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NA = Not applicable												
Condition												
Gestational trophoblastic disease												
Decreasing or undetectable β -hCG levels	1	1	1	1	1	1	—	3	3	A		
Persistently elevated β -hCG levels or malignant disease [§]	1	1	1	1	1	1	—	4	4	D		
Cervical ectropion	1	1	1	1	1	1	—	1	1	A		
Cervical intraepithelial neoplasia (CIN)	2	2	2	1	2	2	—	1	2	A		
Cervical cancer (awaiting treatment)	2	2	2	1	2	2	—	<div><div>I</div><div>C</div></div> <div>42</div>	<div><div>I</div><div>C</div></div> <div>42</div>	D		
Breast disease												
Undiagnosed mass	2	2	2	2	2	2	—	1	2	A		
Benign breast disease	1	1	1	1	1	1	—	1	1	A		
Family history of cancer	1	1	1	1	1	1	—	1	1	A		
Breast cancer												
Current [§]	4	4	4	4	4	4	—	1	4	C		
Past, no evidence of disease for at least 5 years	3	3	3	3	3	3	—	1	3	A		
Endometrial cancer [§]	1	1	1	1	1	1	—	<div><div>I</div><div>C</div></div> <div>42</div>	<div><div>I</div><div>C</div></div> <div>42</div>	D		
Ovarian cancer [§]	1	1	1	1	1	1	—	3	2	3	2	D
Uterine fibroids												
Without distortion of the uterine cavity	1	1	1	1	1	1	—	1	1	C		
With distortion of the uterine cavity	1	1	1	1	1	1	—	4	4	C		
Anatomical abnormalities												
Distorted uterine cavity	—	—	—	—	—	—	—	4	4	—		
Other abnormalities not distorting the uterine cavity or interfering with IUD insertion (including cervical stenosis or lacerations)	—	—	—	—	—	—	—	2	2	—		
Pelvic inflammatory disease (PID)												
Past PID (assuming no current risk factors for STIs)								<div><div>I</div><div>C</div></div>	<div><div>I</div><div>C</div></div>			
With subsequent pregnancy	1	1	1	1	1	1	—	1	1	1	1	A
Without subsequent pregnancy	1	1	1	1	1	1	—	2	2	2	2	C

(Continued)

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Condition										
Current PID	1	1	1	1	1	1	—	4 2 ^m	4 2 ^m	D
Sexually transmitted infections (STIs)^g								I C	I C	
Current purulent cervicitis, chlamydia, or gonorrhea	1	1	1	1	1	1	—	4 2	4 2	D
Other STIs (excluding HIV and hepatitis)	1	1	1	1	1	1	—	2 2	2 2	A
Vaginitis (including trichomonas vaginalis and bacterial vaginosis)	1	1	1	1	1	1	—	2 2	2 2	A
Increased risk of STIs	1	1	1	1	1	1	—	2 _{3ⁿ}	2 _{3ⁿ}	A
HIV/AIDS^g								I C	I C	
High risk of HIV	1	1	1	1	1	1	—	1 1 1 1		A
Asymptomatic or mild HIV clinical disease (WHO stage 1 or 2)	1	1	1	1	1	1	—	2 2	2 2	A
Severe or advanced HIV clinical disease (WHO stage 3 or 4)	1	1	1	1	1	1	—	3 2	3 2	S ^o
Antiretroviral therapy										
Treated with nucleoside reverse transcriptase inhibitors (NRTIs)**	1	1	1	1	1	1	—	2 _{3^p}	2 _{3^p}	2 —
Treated with non-nucleoside reverse transcriptase inhibitors (NNRTIs)										
Efavirenz (EFV) or nevirapine (NVP)	2	2	2	2	DMPA 1 NET-EN 2	2	—	2 _{3^p}	2 _{3^p}	2 —
Etravirine (ETR) or rilpivirine (RPV)	1	1	1	1	1	1	—	2 _{3^p}	2 _{3^p}	2 —
Treated with protease inhibitors (PIs) ^{††}	2	2	2	2	DMPA 1 NET-EN 2	2	—	2 _{3^p}	2 _{3^p}	2 —

^{††}PIs include: ritonavir-boosted atazanavir (ATV/r), ritonavir-boosted lopinavir (LPV/r), ritonavir-boosted darunavir (DRV/r), ritonavir (RTV).

**NRTIs include: abacavir (ABC), tenofovir (TDF), zidovudine (AZT), lamivudine (3TC), didanosine (DDI), emtricitabine (FTC), stavudine (D4T).

^mTreat PID using appropriate antibiotics. There is usually no need to remove the IUD if the client wishes to continue use.

ⁿThe condition is category 3 if a woman has a very high individual likelihood of STIs.

^oPresence of an AIDS-related illness may require a delay in the procedure.

^pCondition is category 2 for IUD insertion for asymptomatic or mild HIV clinical disease (WHO stage 1 or 2), category 3 for severe or advanced HIV clinical disease (WHO stage 3 or 4).

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Condition	Combined oral contraceptives	Monthly injectables	Combined patch and combined vaginal ring	Progestin-only pills	Progestin-only injectables	Implants	Emergency contraceptive pills*	Copper-bearing intrauterine device	Levonorgestrel intrauterine device	Female sterilization*		
Treated with integrase inhibitors (raltegravir [RAL])	1	1	1	1	1	1	—	<div><div>2</div><div>3^p</div></div>	2	<div><div>2</div><div>3^p</div></div>	2	—
OTHER INFECTIONS												
Schistosomiasis												
Uncomplicated	1	1	1	1	1	1	—	1	1		A	
Fibrosis of liver (if severe, see cirrhosis, next page) [§]	1	1	1	1	1	1	—	1	1		C	
Tuberculosis [§]												
Non-pelvic	1	1	1	1	1	1	—	<div><div>I</div><div>C</div></div>	<div><div>I</div><div>C</div></div>	<div><div>I</div><div>C</div></div>		
Known pelvic	1	1	1	1	1	1	—	<div><div>4</div><div>3</div></div>	<div><div>4</div><div>3</div></div>	<div><div>4</div><div>3</div></div>		S
Malaria	1	1	1	1	1	1	—	1	1		A	
ENDOCRINE CONDITIONS												
Diabetes												
History of gestational diabetes	1	1	1	1	1	1	—	1	1		A ^q	
Non-vascular diabetes												
Non-insulin dependent	2	2	2	2	2	2	—	1	2		C ^{i,q}	
Insulin dependent [§]	2	2	2	2	2	2	—	1	2		C ^{i,q}	
With kidney, eye, or nerve damage [§]	<div><div>3/4^r</div></div>	<div><div>3/4^r</div></div>	<div><div>3/4^r</div></div>	2	<div><div>3</div></div>	2	—	1	2		S	
Other vascular disease or diabetes of > 20 years' duration [§]	<div><div>3/4^r</div></div>	<div><div>3/4^r</div></div>	<div><div>3/4^r</div></div>	2	<div><div>3</div></div>	2	—	1	2		S	
Thyroid disorders												
Simple goiter	1	1	1	1	1	1	—	1	1		A	
Hyperthyroid	1	1	1	1	1	1	—	1	1		S	
Hypothyroid	1	1	1	1	1	1	—	1	1		C	
GASTROINTESTINAL CONDITIONS												
Gallbladder disease												
Symptomatic												
Treated by cholecystectomy	2	2	2	2	2	2	—	1	2		A	
Medically treated	<div><div>3</div></div>	2	<div><div>3</div></div>	2	2	2	—	1	2		A	
Current	<div><div>3</div></div>	2	<div><div>3</div></div>	2	2	2	—	1	2		D	

^q If blood glucose is not well controlled, referral to a higher-level facility is recommended.

^r Assess according to severity of condition.

(Continued)

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Condition	Combined oral contraceptives	Monthly injectables	Combined patch and combined vaginal ring	Progestin-only pills	Progestin-only injectables	Implants	Emergency contraceptive pills*	Copper-bearing intrauterine device	Levonorgestrel intrauterine device	Female sterilization*			
Asymptomatic	2	2	2	2	2	2	—	1	2	A			
History of cholestasis													
Pregnancy-related	2	2	2	1	1	1	—	1	1	A			
Past combined oral contraceptives-related	3	2	3	2	2	2	—	1	2	A			
Viral hepatitis	I	C	I	C	I	C							
Acute or flare	$\frac{3}{4^{\dagger}}$	2	3	2	$\frac{3}{4^{\dagger, \S}}$	2	1	1	1	2	1	1	D
Carrier	1	1	1	1	1	1	1	—	1	1	1	A	
Chronic	1	1	1	1	1	1	1	—	1	1	1	A	
Cirrhosis													
Mild (compensated)	1	1	1	1	1	1	1	—	1	1	1	A	
Severe (decompensated) [§]	4	3	4	3	3	3	3	—	1	3	S [†]		
Liver tumors													
Focal nodular hyperplasia	2	2	2	2	2	2	2	—	1	2	1	A	
Hepatocellular adenoma	4	3	4	3	3	3	3	—	1	3	C [†]		
Malignant (hepatoma) [§]	4	3/4	4	3	3	3	3	—	1	3	C [†]		
ANEMIAS													
Thalassemia	1	1	1	1	1	1	1	—	2	1	1	C	
Sickle cell disease[§]	2	2	2	1	1	1	1	—	2	1	1	C	
Iron-deficiency anemia	1	1	1	1	1	1	1	—	2	1	1	D/C ^u	
DRUG INTERACTIONS (for antiretroviral drugs, see HIV/AIDS)													
Anticonvulsant therapy													
Certain anticonvulsants (barbiturates, carbamazepine, oxcarbazepine, phenytoin, primidone, topiramate)	3 [†]	2	3 [†]	3 [†]	DMPA 1 NET-EN 2	2 [†]	—	1	1	1	—		
Lamotrigine	3 [§]	3 [§]	3 [§]	1	1	1	1	—	1	1	1	—	
Antimicrobial therapy													
Broad-spectrum antibiotics	1	1	1	1	1	1	1	—	1	1	1	—	

[§] In women with symptomatic viral hepatitis, withhold these methods until liver function returns to normal or 3 months after she becomes asymptomatic, whichever is earlier.

[†] Liver function should be evaluated.

^u For hemoglobin < 7 g/dl, delay. For hemoglobin ≥ 7 to < 10 g/dl, caution.

[§] Combined hormonal contraceptives may reduce the effectiveness of lamotrigine.

	Combined oral contraceptives	Monthly injectables	Combined patch and combined vaginal ring	Progestin-only pills	Progestin-only injectables	Implants	Emergency contraceptive pills*	Copper-bearing intrauterine device	Levonorgestrel intrauterine device	Female sterilization*
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Condition										
Antifungals and antiparasitics	1	1	1	1	1	1	—	1	1	—
Rifampicin or rifabutin therapy	3 ^I	2	3 ^I	3 ^I	DMPA 1 NET-EN 2	2	—	1	1	—

*Additional conditions relating to emergency contraceptive pills:

Category 1: Repeated use; rape; **CYP3A4 inducers** (e.g., rifampicin, phenytoin, phenobarbital, carbamazepine, efavirenz, fosphenytoin, nevirapine, oxcarbazepine, primidone, rifabutin, St. John's wort/Hypericum perforatum).

Category 2: History of severe cardiovascular complications (ischemic heart disease, cerebrovascular attack, or other thromboembolic conditions, and angina pectoralis).

*Additional conditions relating to female sterilization:

Caution: Diaphragmatic hernia; kidney disease; severe nutritional deficiencies; previous abdominal or pelvic surgery; concurrent with elective surgery.

Delay: Abdominal skin infection; acute respiratory disease (bronchitis, pneumonia); systemic infection or gastroenteritis; emergency surgery (without previous counseling); surgery for an infectious condition; certain postpartum conditions (7 to 41 days after childbirth); severe pre-eclampsia/eclampsia; prolonged rupture of membranes (24 hours or more); fever during or immediately after delivery; sepsis after delivery; severe hemorrhage; severe trauma to the genital tract; cervical or vaginal tear at time of delivery); certain postabortion conditions (sepsis, fever, or severe hemorrhage; severe trauma to the genital tract; cervical or vaginal tear at time of abortion; acute hematometra); subacute bacterial endocarditis; unmanaged atrial fibrillation.

Special arrangements: Coagulation disorders; chronic asthma, bronchitis, emphysema, or lung infection; fixed uterus due to previous surgery or infection; abdominal wall or umbilical hernia; postpartum uterine rupture or perforation; postabortion uterine perforation.

Conditions relating to vasectomy:

No special considerations: High risk of HIV, asymptomatic or mild HIV clinical disease, sickle cell disease.

Caution: Young age; depressive disorders; diabetes; previous scrotal injury; large varicocele or hydrocele; cryptorchidism (may require referral); lupus with positive (or unknown) antiphospholipid antibodies; lupus and on immunosuppressive treatment.

Delay: Active STIs (excluding HIV and hepatitis); scrotal skin infection; balanitis; epididymitis or orchitis; systemic infection or gastroenteritis; filariasis; elephantiasis; intrascrotal mass.

Special arrangements: Severe or advanced HIV clinical disease may require delay; coagulation disorders; inguinal hernia; lupus with severe thrombocytopenia.

Conditions relating to male and female condoms, spermicides, diaphragms, cervical caps, and the lactational amenorrhea method:

All other conditions listed on the previous pages that do not appear here are a category 1 or NA for male and female condoms, spermicides, diaphragms, and cervical caps, and not listed in the Medical Eligibility Criteria for the lactational amenorrhea method.

<div> <div></div> = Use the method </div> <div> <div></div> = Do not use the method </div> <div> <div></div> = Condition not listed; does not affect eligibility for method </div> <div>NA = Not applicable</div>	Male and female condoms	Spermicides	Diaphragms	Cervical caps	Lactational amenorrhea method ^{##}
Condition					
REPRODUCTIVE HISTORY					
Parity					
Nulliparous (has not given birth)	1	1	1	1	—
Parous (has given birth)	1	1	2	2	—
< 6 weeks postpartum	1	1	NA ^v	NA ^v	—
CARDIOVASCULAR DISEASE					
Complicated valvular heart disease (pulmonary hypertension, risk of atrial fibrillation, history of subacute bacterial endocarditis) [§]	1	1	2	2	—
REPRODUCTIVE TRACT INFECTIONS AND DISORDERS					
Cervical intraepithelial neoplasia	1	1	1	4	—
Cervical cancer	1	2	1	4	—
Anatomical abnormalities	1	1	NA ^w	NA ^x	—
HIV/AIDS[§]					
High risk of HIV	1	4	4	4	—
Asymptomatic or mild HIV clinical disease (WHO stage 1 or 2)	1	3	3	3	C ^y
Severe or advanced HIV clinical disease (WHO stage 3 or 4)	1	3	3	3	C ^y
OTHERS					
History of toxic shock syndrome	1	1	3	3	—
Urinary tract infection	1	1	2	2	—
Allergy to latex ^z	3	1	3	3	—

^v Wait to fit/use until uterine involution is complete.

^w Diaphragm cannot be used in certain cases of uterine prolapse.

^x Cap use is not appropriate for a client with severely distorted cervical anatomy.

^y Caution: Women living with HIV should receive appropriate antiretroviral therapy (ART) and exclusively breastfeed for the first 6 months of a baby's life, introduce appropriate complementary foods at 6 months, and continue breastfeeding through 12 months. (See Chapter 24 – Maternal and Newborn Health, Preventing Mother-to-Child Transmission of HIV, p. 378.)

^z Does not apply to plastic condoms, diaphragms, and cervical caps.

^{##}For additional conditions relating to the lactational amenorrhea method, see next page.

Additional conditions relating to the lactational amenorrhea method:

Conditions affecting the newborn that may make breastfeeding difficult: Congenital deformities of the mouth, jaw, or palate; newborns who are small-for-date or premature and needing intensive neonatal care; and certain metabolic disorders.

Medication used during breastfeeding: To protect infant health, breastfeeding is not recommended for women using such drugs as anti-metabolites, bromocriptine, certain anticoagulants, corticosteroids (high doses), cyclosporine, ergotamine, lithium, mood-altering drugs, radioactive drugs, and reserpine.

Conditions relating to fertility awareness methods:

A = Accept C = Caution D = Delay		
Condition	Symptoms-based methods	Calendar-based methods
Age: post menarche or perimenopause	C	C
Breastfeeding < 6 weeks postpartum	D	D ^{aa}
Breastfeeding ≥ 6 weeks postpartum	C ^{bb}	D ^{bb}
Postpartum, not breastfeeding	D ^{cc}	D ^{aa}
Postabortion	C	D ^{dd}
Irregular vaginal bleeding	D	D
Vaginal discharge	D	A
Taking drugs that affect cycle regularity, hormones, and/or fertility signs	D/C ^{ee}	D/C ^{ee}
Diseases that elevate body temperature		
Acute	D	A
Chronic	C	A

^{aa} Delay until she has had 3 regular menstrual cycles.

^{bb} Use caution after monthly bleeding or normal secretions return (usually at least 6 weeks after childbirth).

^{cc} Delay until monthly bleeding or normal secretions return (usually < 4 weeks postpartum).

^{dd} Delay until she has had one regular menstrual cycle.

^{ee} Delay until the drug's effect has been determined, then use caution.

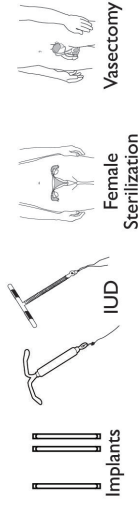
Conditions relating to the progesterone-releasing vaginal ring:

Pregnancy	N/A
Breastfeeding ≥ 4 weeks postpartum	1

Comparing Effectiveness of Family Planning Methods

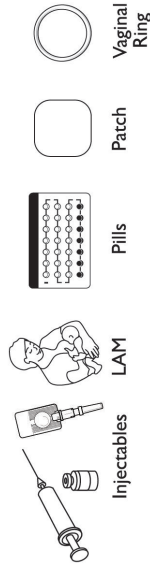
More effective

Less than 1 pregnancy per 100 women in one year



Implants, IUD, female sterilization: After procedure, little or nothing to do or remember

Vasectomy: Use another method for first 3 months



Injectables: Get repeat injections on time

Lactational Amenorrhea Method (for 6 months): Breastfeed often, day and night

Pills: Take a pill each day

Patch, ring: Keep in place, change on time



Male condoms, diaphragm: Use correctly every time you have sex

Fertility awareness methods: Abstain or use condoms on fertile days. Newer methods (Standard Days Method and TwoDay Method) may be easier to use.



Female condoms, withdrawal, spermidces: Use correctly every time you have sex

Less effective

About 20 pregnancies per 100 women in one year

Source: FAMILY PLANNING: A GLOBAL HANDBOOK FOR PROVIDERS: Updated 4th edition, 2022