

INJECTABLE CONTRACEPTIVES TECHNICAL OVERVIEW

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Overview

- What are injectable contraceptives?
- Mechanism of action
- Types/differences
- Side effect profile
- Medical Eligibility Criteria
- Effectiveness
- Service delivery requirements



Pathfinder International



Injectable Contraceptives: at a glance



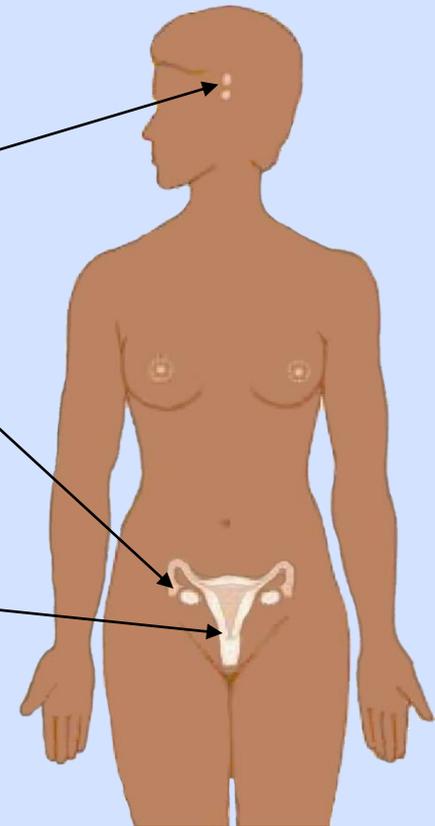
- Hormone-containing injection that is administered into a muscle (usually buttock or upper arm) or just under the skin
- Not visible; discreet
- Short-term contraceptive method
- Quick and easy to use
- 99.7% effectiveness with perfect use; 94% effectiveness with typical use



How do they work?

Prevents ovulation

Thickens cervical
mucus



Almost all women can use injectable contraception



Types of Injectable Contraceptives

Brand Name	Depo-Provera	Sayana Press	Noristerat	Cyclofem	Mesigyna/Norigynon
Generic Name	DMPA-IM	DMPA-SC	NET-EN		
Duration	3 months	3 months	2 months*	1 month	1 month
Reinjection Window	Between 2 weeks before and 4 weeks after 3-month mark	Between 2 weeks before and 4 weeks after 3-month mark	Between 2 weeks before and 2 weeks after 2-month mark	Between 1 week before and 1 week after 1-month mark	Between 1 week before and 1 week after 1-month mark
Formulation	Medroxy-progesterone acetate (MPA), 150 mg	MPA, 104 mg	Norethisterone Enanthate	Combined MPA and estradiol cypionate	Combined NET-EN and estradiol valerate
Administration	Intramuscular	Subcutaneous	Intramuscular	Intramuscular	Intramuscular
Manufacturer	Pfizer	Pfizer	Bayer	Concept Foundation	Bayer
Unit cost	\$0.88	\$0.85 (for FP2020 countries)	\$1.15		\$0.85
Shelf life	5 years	3 years	5 years	5 years	5 years



How are DMPA-IM and DMPA-SC different?

Feature	DMPA-IM 	DMPA-SC (Sayana Press) 
Mg/dose	150 mg	104 mg
Package	Vial and syringe	Prefilled Uniject injection system
Type of injection	Intramuscular (deep into the muscle); 3.8 cm needle	Subcutaneous (in the fatty tissue under the skin); 2.5 cm needle
Where to inject	<ul style="list-style-type: none">• Arm (deltoid muscle)• Hip• Buttocks	<ul style="list-style-type: none">• Anterior thigh (front of thigh)• Abdomen• Back of arm
Skin irritation	Skin irritation at injection site is not likely	Skin may be a little irritated at injection site



Advantages of Injectable Use



Shannon Jensen, AFP/Getty Images

- Highly effective
- Easy to use and private - no one can tell woman is using it
- Safe for breastfeeding mothers

- Has beneficial, non-contraceptive effects:
 - ◆ Reduces the risk of endometrial and ovarian cancer
 - ◆ Protection from uterine fibroids, ectopic pregnancy and symptomatic pelvic inflammatory disease (PID)
- Special advantages for some women include:
 - ◆ May reduce sickle cell crises in women with sickle cell anemia
 - ◆ Prevents seizures in epileptics and prevents iron deficiency anemia

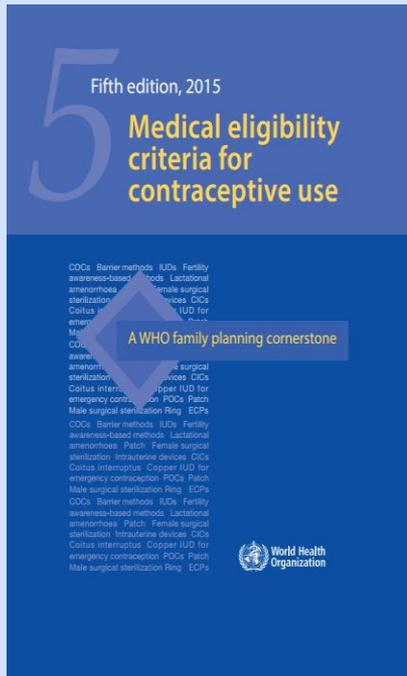


Potential Side Effects/Disadvantages

- Delay in return to fertility (average 10 months from last injection)
- May cause weight gain, headaches and nausea
- Issues and perceptions related to HIV, STIs and bone loss
- Changes in menstrual bleeding, including:
 - ◆ Light spotting or heavy bleeding
 - ◆ Amenorrhea after one year (although this is perceived as an advantage by some women)



Medical Eligibility Criteria



Category 1: No restriction on use

Category 2: Advantages generally outweigh theoretical or proven risks

Category 3: Theoretical or proven risks usually outweigh advantages

Category 4: Unacceptable health risk

Source: WHO RHR



Medical Eligibility Criteria for Use

Condition	Category			Clarification
	Implants	DMPA/ NET- EN/SP	POPs	
High risk for HIV	1	2	1	<p>Clarification (DMPA): There continues to be evidence of a possible increased risk of acquiring HIV among progestin-only injectable users. Uncertainty exists about whether this is due to methodological issues with the evidence or a real biological effect. In many settings, unintended pregnancies and/or pregnancy-related morbidity and mortality are common, and progestin-only injectables are among the few types of methods widely available. Women should not be denied the use of progestin-only injectables because of concerns about the possible increased risk. Women considering progestin-only injectables should be advised about these concerns, about the uncertainty over whether there is a causal relationship, and about how to minimize their risk of acquiring HIV.</p>



Ongoing Research

- Evidence for Contraceptive Options and HIV Outcomes (ECHO) trial comparing HIV acquisition risk among users of DMPA-IM, Jadelle Implant, and Copper T IUD
- More information: <http://echo-consortium.com/>

Gates Open Research

Gates Open Research 2017, 1:17 Last updated: 15 JAN 2018



STUDY PROTOCOL

Rationale and design of a multi-center, open-label, randomised clinical trial comparing HIV incidence and contraceptive benefits in women using three commonly-used contraceptive methods (the ECHO study) [version 1; referees: 2 approved]

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Abstract

Background: In vitro, animal, biological and observational clinical studies suggest that some hormonal methods, particularly depot medroxyprogesterone acetate – DMPA, may increase women's risk of HIV acquisition. DMPA is the most common contraceptive used in many countries worst affected by the HIV epidemic. To provide robust evidence for contraceptive decision-making among women, clinicians and planners, we are conducting the Evidence for Contraceptive Options and HIV Outcomes (ECHO) study in four countries with high HIV incidence and DMPA use: Kenya, South Africa, Swaziland, and Zambia (ClinicalTrials.gov identifier NCT02550067).

Study design: We randomized HIV negative, sexually active women 16-35 years old requesting effective contraception and agreeing to participate to either DMPA, the copper T 380A intrauterine device or levonorgestrel implant. Participants attend a contraception support visit after 1 month and quarterly visits thereafter for 12 to 18 months. Participants receive a standard HIV prevention package and contraceptive side-effect management at each visit. The primary outcome is HIV seroconversion. Secondary outcomes include pregnancy, serious adverse events and method discontinuation. The sample size of 7800 women provides 80% power to detect a 50% difference in HIV risk

Open Peer Review

Referee Status:

	Invited Referees	
	1	2
version 1 published 29 Dec 2017	report	report

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Discuss this article

Comments (0)



Effectiveness of contraceptive methods in typical use

“Not all contraceptives are the same” ^[1]

Method	# of unintended pregnancies among 1,000 women in first year of typical use
Implant	0.5
Vasectomy	1.5
Female sterilization	5
IUD (Cu-T / LNG-IUS)	8 / 2
Injectable (Depo-Provera)	60
Pill	90
SDM	120
Male condom	180
Female condom	210
Withdrawal	220
No method	850

[1] Source: modified from *The RESPOND Project*, adapted from Trussell J. Contraceptive failure in the United States. *Contraception* 2011; 83:397–404.



Service Delivery Considerations

- About 32-40 million women use DMPA and about 3 million women use other injectables
 - ◆ Injectables are the most commonly used methods in many countries (e.g., Kenya) and account for about half of the method mix in Ethiopia, Haiti, Madagascar, Malawi, Rwanda and South Africa
- Monthly injectables are used mostly in Latin America
- At least one injectable is available in all service delivery sites in most LMICs through fixed services, community health workers, in pharmacies and drug shops and through social marketing

