**IMPLANON™: Clinical Information**

**Drug Interactions**
- Interactions can occur with medicinal products that induce microsomal enzymes, specifically cytochrome P450 enzymes, which can result in increased clearance of sex hormones (eg, phenytoin, barbiturates, primodone, bosantan, carbamazepine, rifampicin, and HIV medication [eg, ritonavir; nevirapine; nevirapine, efavirenz]), and possibly also oxcarbazepine, topiramate, felbamate, griseofulvin, and the herbal remedy St. John’s wort.

**Contraindications**
- Vaginal infections
- Irregular menstruation
- Breast pain
- Acne
- Weight increase
- Women who are likely to have changes in their menstrual bleeding pattern with IMPLANON. These may include changes in bleeding frequency, intensity, or duration; however, the bleeding pattern experienced during the first 3 months is broadly predictive of future bleeding patterns for many women.
- Amenorrhea was reported in about 1 of 5 women while another 1 of 5 women reported frequent and/or prolonged bleeding.
- Women with a history of liver tumors (benign or malignant)
- Presence of history of severe hepatic disease as long as liver function values have not returned to normal
- Known or suspected sex-(steroid sensitive malignancies
- Undiagnosed vaginal bleeding
- Hypersensitivity to the active substance or to any of the excipients of IMPLANON

**How to Insert IMPLANON**

**Applicator for IMPLANON**

- Insertion of IMPLANON should be performed under aseptic conditions, and by a health care provider who is familiar with the procedure.
- Insertion of IMPLANON is performed with the specially designed applicator. The use of this applicator differs substantially from that of a classical syringe. A drawing of a dismantled applicator and its individual components (eg, cannula, obturator, and needle with double-angled bevel) is shown in this leaflet to clarify its specific functions.
- The procedure used for insertion of IMPLANON is opposite to giving an injection. When inserting IMPLANON, the obturator must remain fixed while the cannula (needle) is retracted from the arm.
- Allow the subject to lie on her back with her non-dominant arm (the arm which the woman does not use for writing) turned outward and bent at the elbow.
- To minimize the risk of neural or vascular damage, IMPLANON should be inserted at the inner side of the non-dominant upper arm about 8 to 10 cm above the medial epicondyle of the humerus.
- IMPLANON should be inserted subdermally, ie, just under the skin (subcutaneously).
- When IMPLANON is inserted too deeply (intramuscularly or in the fascia), this may cause neural or vascular damage. Too deep insertions have been associated with paresthesia (due to neural damage) and migration of the implant (due to intramuscular or fascial insertion), and in rare cases with intravascular insertion. Moreover, when the implant is inserted too deeply, it may not be palpable and localization and/or removal can be difficult later.

**References**
- Greenaw 2008
- Blumenthal 2008
- Davies 1993

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• Stretch the skin around the insertion site with thumb and index finger (Figure 1).
• Insert first only the tip of the needle, slightly angled (~20°) (Figure 2).
• Release the skin.
• Lower the applicator to a horizontal position (Figure 3).
• While lifting the skin, gently insert the needle to its full length. Do not exert force. The needle should be inserted parallel to the skin to ensure that IMPLANON is inserted superficially just under the skin (Figure 4).
• Keep the applicator parallel to the surface of the skin.
• When the implant is placed too deeply, paresthesia and migration of the implant may occur. Moreover, removal can be difficult later.
  • Break the seal of the applicator (Figure 5).
  • Turn the obturator 90° (Figure 6).
  • Fix the obturator with 1 hand parallel to the arm and with the other hand slowly retract the cannula (needle) out of the arm (Figure 7).
• Never push against the obturator.
  • Check the needle for the absence of the implant. After retraction of the cannula, the grooved tip of the obturator should be visible (Figure 8).
• Always verify the presence of the implant by palpation and also have the woman palpate it herself.
  • In case the implant cannot be palpated or when the presence of the implant is doubtful, other methods must be applied to confirm its presence. Suitable methods to locate the implant are first of all ultrasound (US) and secondly magnetic resonance imaging (MRI). Prior to the application of US or MRI for the localization of IMPLANON, it is recommended to consult MSD for instructions.
  • In case these imaging methods fail, it is advised to verify the presence of the implant by measuring the etonogestrel level in a blood sample of the subject. In this case, MSD will also provide the appropriate procedure.
• Until the presence of IMPLANON has been confirmed, a contraceptive barrier method must be used.
  • Apply sterile gauze with a pressure bandage to prevent bruising.
  • Fill out the User Card and hand it to the patient to facilitate removal of the implant later.
• The applicator is for single use only and must be adequately disposed of, in accordance with local regulations for the handling of biohazardous waste.

Localizing IMPLANON
• Localization is an essential component of the insertion and removal process. Palpation is the first step in the localization process.
  • Always localize by palpation:
    – Immediately after insertion
    – Immediately prior to removal
  • If the implant is not palpable after insertion, confirm its presence in the arm with imaging techniques (US, MRI) as soon as possible. The patient must use a back-up method of contraception until the presence of IMPLANON has been confirmed.
  • Exploratory surgery for the purpose of removing IMPLANON without knowledge of the exact location of the implant is strictly discouraged.
  • IMPLANON is not radiopaque and is not visible on X-ray or CT images.
  • Although IMPLANON is visible on MRI images, ultrasound is the preferred imaging method because it is least invasive.
  • After localizing the implant using US, removal can be completed with the assistance of US guidance.
• Characteristics of IMPLANON on USS:
  – Sharp acoustic shadow below the implant in the transverse position
  – Implant is a small echogenic spot (2 mm) when viewed in the transverse position
• MRI - Implant appears as a hypodense area. It is especially important to differentiate the implant from blood vessels.

How to Remove IMPLANON
• Removal of IMPLANON should be performed only by a health care provider who is familiar with the procedure.
  • Prior to removal carefully read the full Prescribing Information.
  • Indications for removal
    – Patient request
    – Medical indication
    – At the end of 3 years of use
  • If the woman does not wish to become pregnant, another contraceptive method should be started immediately (return to normal menstrual cycle may be very rapid).
  • Counsel the patient thoroughly prior to removal of IMPLANON.
• A non-palpable implant should always first be localized by either US or MRI before removal is attempted. In case of doubt, the presence of IMPLANON can be verified by etonogestrel determination.
• Exploratory surgery without knowledge of the exact localization of the implant is strictly discouraged. Removal of deeply inserted implants should be conducted with caution in order to prevent damage to deeper neural or vascular structures in the arm and be performed by health care providers familiar with the anatomy of the arm.
• If the tip of the implant is not visible, gently insert a forceps into the incision and grasp the implant (Figures G and H). With a second forceps, carefully dissect the tissue around the implant. The implant can then be removed (Figure I).
• Close the incision with a butterfly closure.
• Apply sterile gauze with a pressure bandage to prevent bruising.
• There have been occasional reports of displacement of the implant; usually this involves minor movement relative to the original position. This may complicate localization of the implant by palpation, USS, and/or MRI, and removal may require a larger incision and more time.
• If the woman would like to continue using IMPLANON, a new implant may be inserted immediately after the old implant is removed (see “How to replace IMPLANON”).
• If the woman does not wish to continue using IMPLANON and does not want to become pregnant, another contraceptive method should be recommended.

How to Replace IMPLANON

• Replacement of IMPLANON should only be performed under aseptic conditions and only by a health care provider who is familiar with the insertion and removal procedure.
• Immediate replacement can be done after removal of the previous implant as described in “How to Remove IMPLANON.”
• The procedure to replace IMPLANON is similar to the insertion procedure described in the section “How to Insert IMPLANON.” The new implant can be inserted in the same arm and often through the same incision from which the previous implant was removed. If the same incision is being used, the following instructions must also be taken into account.
• The small incision of the removal procedure can be used as the entrance for the needle of the new applicator.
• Anesthetize the insertion site with 2 mL lidocaine (1%) applied just under the skin commencing at the removal incision along the “insertion canal.”
• During replacement, inserting the needle to its full length is crucial failure to do so will result in a partly visible implant in the removal incision in the skin.
Before administering IMPLANON™, please read the accompanying Prescribing Information.