

# Migration of Implanon contraceptive device into the pulmonary arterial tree.

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## Introduction:

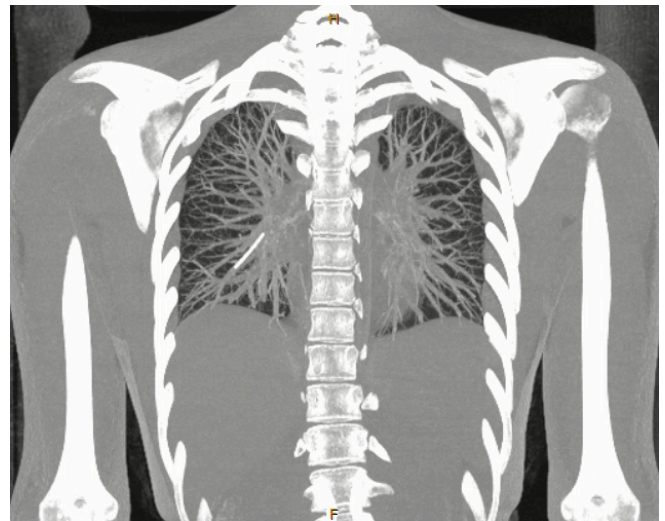
An Implanon NXT is a subdermal contraceptive implant that is widely used for long-term contraception. Although usually considered safe there are complications that can occur such as migration. This case study reports a 24-year-old female that presents with an Implanon found to be located within the pulmonary arterial tree that is a rare complication with potential life-threatening consequences.

## Case presentation:

A 24-year-old female presents to the emergency department on advice by her GP following concern for an improper insertion of an Implanon device. Immediately after insertion the device was unable to be palpated by the GP and she was referred for an ultrasound. An ultrasound of her forearm showed an actively migrating Implanon device within the left basilic vein and the patient was subsequently referred to the emergency department for further investigations and management. The patient was asymptomatic with normal vital signs, normal BMI of 23 and on examination slight bruising around the left forearm. She did not have any significant past medical history. Initial investigations including a full blood count and coagulation studies were unremarkable. A non-contrast computed tomography (CT) confirmed the presence of the 3cm migrated Implanon device within the pulmonary arterial tree.

## Management:

Following the confirmation of the migrated Implanon device, the case was discussed with the cardiothoracic surgeons and interventional radiologists. The patient underwent an IR-guided endovascular retrieval via the right internal jugular vein to remove the Implanon device from the pulmonary arterial tree. A final pulmonary angiogram following removal of the foreign body demonstrated no bleeding, filling defect or acute complications. Her post-operative recovery was uneventful, and the patient was discharged home the same day as the procedure.



## Discussion:

Implanon is a common contraceptive device that is ideally placed into the subcutaneous tissue. Unfortunately, complications can arise due to trauma related to insertion such as bruising, swelling, pain, infection, and scarring. Less common risks include migration of the Implanon device such as in this case into the pulmonary arterial tree which has potentially serious consequences such as pulmonary artery obstruction and embolism. The mechanism of migration in this case is likely related to the inadvertent deep insertion of the Implanon device into the vein. Reported risk factors for intravascular migration of implants include deep insertion, insertion near the joint space and patients with low BMI. There have been rare cases where the Implanon has embolised into the pulmonary vasculature and this has remained undiagnosed for 2-3 years and the device has become endothelialised and fixed within the wall of the pulmonary artery requiring segmentectomy of the lung. In this case reported, the early recognition of the patient's abnormal symptoms of bruising post insertion led to the timely diagnosis of the migrated Implanon device which resulted in the successful endovascular retrieval of the implant by the interventional radiology team.

## Conclusion:

This case serves as a key reminder of the rare complications of contraceptive implant placement, including pulmonary arterial migration. Early recognition and timely intervention are crucial for optimal patient outcomes.