Comment on 'Inserting the etonogestrel contraceptive implant'

We were most interested to read the letter[1] from Martyn Walling about the insertion technique for the etonogestrel implant. We too have adopted his technique of injecting local anaesthetic only at the site of needle puncture and not along the length of the proposed track. We also agree with Walling that after the needle has penetrated the dermis it should be withdrawn until the bevel is seen and then insertion continued after the angle of the needle has been adjusted to parallel to the skin surface. Some argue against the former on the grounds that the insertion will be more painful, but most of the pain experienced is when the skin is penetrated. We have however noticed that the last 1 cm of insertion is, for some unknown reason, often painful at the tip.

We feel Walling did not make himself entirely clear about the reasons for the above techniques. He refers generally to impalpable implants: in fact he is conflating two different problems, namely deeply located implants and absent implants (non-insertion). The Faculty of Sexual and Reproductive Healthcare (FSRH) guidance should be carefully noted: an impalpable implant should not be assumed to be a deep implant.[2] We would like to make comments on both deep insertions and non-insertion.

Deeply located implants create difficulties with removal. They can be prevented by the manoeuvre Walling describes and by tenting the skin throughout the whole insertion process.

One of the predisposing factors for complications of deep contraceptive implant insertions is the 'thin arm'.[3] In women with a substantial layer of subcutaneous fat in the arm, a deeply inserted implant is unlikely to injure vital structures; it may need removal by an expert but is unlikely to result in serious complications. In contrast, in a slim arm, a less deeply inserted implant can still easily penetrate the muscle fascia. In the thin arm, the neurovascular bundle is close to the surface and can easily be injured during a slightly deep insertion.[4 5]

Experience from clinical cases and medicolegal cases has shown repeatedly that unless particular care is taken with tenting the skin and keeping superficial in women with thin arms, implants can penetrate muscle fascia. Once part of the implant is inside the muscle (biceps or triceps), muscle contractions can rapidly force the remainder of the implant into the muscle; migration up or down the muscle is then possible. Implants in such a location are best referred to a specialist centre [Merck Sharp & Dohme Limited (MSD) holds a list of recognised centres]. Rarely such cases have had to undergo removal by open surgery under general anaesthesia rather than the usual techniques under local anaesthesia. Outcomes such as this are prone to trigger litigation.

It must be emphasised that the modifications to the etonogestrel implant introducer in 2010[6] have not done away with deep insertions. Deep insertions were already being noted in preliminary trials of Nexplanon®.[7] The mechanism situated just above the needle of Nexplanon is not sufficient in itself to set the depth of the implant; tenting of the skin is still necessary. The tip of the needle under the dermis should be observed directly throughout the insertion procedure. Unfortunately visualisation of the needle during insertion is restricted because the 'nose' of the applicator obscures the view.[6] The needle has to be viewed at an angle; a good light source is needed, directed from the side.

Cases of non-insertion, although rare, continue to be seen.[4] These have a completely different underlying cause from an impalpable deep implant and have serious implications for the woman concerned as she is vulnerable to pregnancy. It appears that the redesign of Implanon® into the one-handed Nexplanon system[6] has not stopped non-insertion from happening; we are still seeing medicolegal cases of non-insertion. What is troubling is that these cases are not being picked up by the clinicians concerned even though they go through the motions of checking the arm for the presence of the implant at the end of the insertion procedure. As Walling points out, this may be because of being misled by feeling a raised line of local anaesthetic. In some cases it may also be due to feeling fibrous tissue from a previous insertion when a subsequent implant is inserted along the same track. We recommend placing both ends of the implant between thumb and index finger and feeling the bowing of the implant between the digits.

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J Fam Plann Reprod Health Care: first published as 10.1136/jfprhc-2016-101448 on 18 February 2016. Downloaded from http://jfprhc.bmj.com/ on April 19, 2024 by guest. Protected by copyright.

Competing interests None declared.

Published Online First 18 February 2016

J Fam Plann Reprod Health Care 2016;**42**:158–159.
doi:10.1136/jfprhc-2016-101448

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