

altered, because neither the core content, the shape or the surface of the implant skin have changed.

Dr Elliman describes a situation in which there was a breach in the convex surface of an implant, which on removal was found to be 'curved'.¹ In the very rare cases of either a complete fracture including the skin or damage to the skin, the release of etonogestrel is also basically unchanged. With a broken implant, the surface area of the skin will still be the same, as will the core content. The only difference is that instead of two ends there will now be four. The additional release surface for etonogestrel of two extra circles with a diameter of 2 mm is 6.28 mm². This is small compared with the total release surface of an intact implant: 257 mm².

During early development of Implanon, implants were deliberately damaged (a.o. bent and carved with a razor) to investigate their etonogestrel release rate *in vitro*. The *in vitro* release rate of the damaged implants increased only slightly compared to the *in vitro* release rate of undamaged implants (data on file, MSD, Oss, The Netherlands). The contraceptive efficacy will therefore not be affected by implant breakage. The decision whether or not to remove and replace a broken or bent Implanon or Nexplanon must be based on clinical judgment and discussion with the patient.

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Competing interests The author is an employee of MSD.

J Fam Plan Reprod Health Care 2013;**39**:67.
doi:10.1136/jfprhc-2012-100540

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- 1 Elliman A. Removal of a fractured Nexplanon[®]. *J Fam Plann Reprod Health Care* 2013;**39**:66–67.

Removal of a fractured Nexplanon[®]: MSD response

In situ breakage of Implanon[®]/Nexplanon[®] is a rare occurrence. In most cases the fracture is restricted to the core of the implant, while the skin of the implant remains intact and keeps the two parts together, be it usually at an angle. In these cases the release characteristics of etonogestrel are not