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Delay in safe motherhood

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Document Version

Publisher's PDF, also known as Version of record

Publication date:
2011

[Link to publication in University of Groningen/UMCG research database](#)

Citation for published version (APA):

van Lonkhuijzen, L. R. C. W. (2011). *Delay in safe motherhood*. [Thesis fully internal (DIV), University of Groningen]. [s.n.].

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Supplement 2
Low cost simulation models for
teaching episiotomy/laceration
repair and venous cut down

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Int J Gynaecol Obstet. 2011;112:249

Recently, there has been progress in reaching the fifth Millennium Development Goal, which is to reduce maternal mortality by three-quarters between 1990 and 2015.¹ However, many women still die as a result of obstetric complications; these deaths could be prevented with appropriate and timely treatment. Several courses exist that aim to improve emergency obstetric care, some of which are available free of charge on the Internet [2]. These courses recommend simulation and role play as a way to practice technical and non-technical skills. Using a simulation model to practice skills has the advantage that the skill can be acquired at a convenient time and, moreover, that patients do not need to be exposed to inexperienced learners. However, most commercially available models may not be affordable in a low-resource setting. The present paper describes 2 models—1 for teaching episiotomy repair and 1 for venous cutdown—both of which can be locally produced at low cost. Instructions on how to use and construct the models are available free of charge on the Internet or through the WHO HINARI program.

The model for practicing perineal repair is constructed from a large sponge.² Instructions on how to make and use the model, in addition to a useful presentation of the required skills for learners, are available online.³ Learners can practice handling the suturing instruments and repairing perineal lacerations and fourth-degree tears. This method has been successfully used to train physicians, with learners subsequently reporting increased confidence.⁴

The venous cutdown model is constructed from a length of wood (approximately 20 x 3 x 0.5 cm) covered by cast padding to simulate subcutaneous tissue.⁵ A 6-mm penrose drain is placed lengthwise between the layers of padding—to simulate the vein—and stapled at both ends. The padding is covered by adhesive tape to simulate the skin. Bicycle valve tubing may be used as an alternative to the penrose drain. Klofas⁵ describes and illustrates the venous cutdown procedure using a wire, dilator, and catheter. The same model can be used to practice venous cutdown using a more traditional approach, as illustrated in the WHO IMPAC guide⁶, which is available in 7 languages.

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