

# A New Training Model for Adult Circumcision

Mohamed I. Abdulmajed, MBChB, Matthew Thomas, MBBS, and Iqbal S. Shergill, MBBS

Department of Urology, Wrexham Maelor Hospital, Betsi Cadwaladr University Health Board, Wrexham, North Wales, United Kingdom

**BACKGROUND:** Adult circumcision is an extremely common surgical operation. As such, we developed a simple model to teach junior doctors the various techniques of circumcision in a safe, reliable, and realistic manner.

**MATERIALS AND METHODS:** A commonly available simulated model penis (Pharmabotics, Limited, Winchester, United Kingdom) is used, which is then covered with a 30-mm diameter, 400-mm long, double-layered simulated bowel (Limbs & Things, Bristol, United Kingdom). The 2 layers of the prepuce are simulated by folding the simulated bowel on itself. The model has been officially adopted in the UroEmerge hands-on practical skills course and all participants were asked to provide feedback about their experience on a scale from 1 to 10 (1 = extremely unsatisfied and 10 = excellent).

**RESULTS:** The model has been used successfully to demonstrate, teach, and practice adult circumcision as well as other penile procedures with rating by trainees ranged from 7 to 10 (median: 9), and 9 of 12 trainees commented on the model using expressions such as “life like,” “excellent idea,” or “extremely beneficial.”

**CONCLUSIONS:** The model is particularly useful as it is life like, realistic, easy to set up, and can be used to repeatedly demonstrate circumcision, as well as other surgical procedures, such as dorsal slit and paraphimosis reduction. (J Surg 69: 447-448. © 2012 Association of Program Directors in Surgery. Published by Elsevier Inc. All rights reserved.)

**KEY WORDS:** circumcision, model, simulation, training

**COMPETENCIES:** Patient Care, Professionalism, Practice Based Learning and Improvement

## INTRODUCTION

Adult circumcision is an extremely common surgical operation performed by urologists and general surgeons; importantly, the complications of this procedure may be disastrous. Although trainees acquire basic skills and knowledge on this technique

during their training, operative learning has traditionally been through an apprenticeship-style experience. Simulated models for neonatal circumcision exist,<sup>1,2</sup> but only recently has an adult circumcision model been introduced.<sup>3</sup>

We developed a simpler model to teach junior doctors the various techniques of circumcision in a safe, reliable, and realistic manner, with the ultimate aim to improve patient safety.

## MATERIALS AND METHODS

A commonly available simulated model penis (Pharmabotics, Limited, Winchester, United Kingdom) is used, which is then covered with a 30-mm diameter, 400-mm long, double-layered simulated bowel (Limbs & Things, Bristol, United Kingdom). The 2 layers of the prepuce are simulated by folding the simulated bowel on itself. This model now represents the uncircumcised male ready for circumcision (Fig. 1). The technique of circumcision can then be demonstrated, and more importantly be practiced on, by junior doctors using routine surgical instruments (Figs. 2 and 3). The total cost is £22.00, and it can be used several times again (average 4 times).

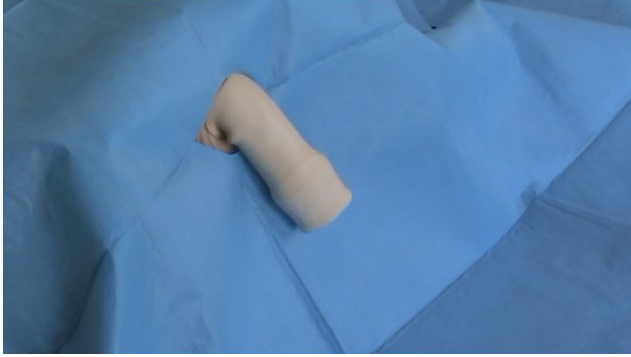
The circumcision model is officially adopted in the UroEmerge hands-on practical skills course<sup>4</sup> and it has been used to demonstrate penile ring block local anesthetic injection and dorsal slit procedure, as well as paraphimosis reduction and priapism aspiration.

All trainees (n = 12) were asked to provide feedback on a structured feedback form with the ability to rate their experience on a scale from 1 to 10 (1 = extremely unsatisfied and 10 = excellent). Also, the form included a box for any comments or suggestions for development by trainees.

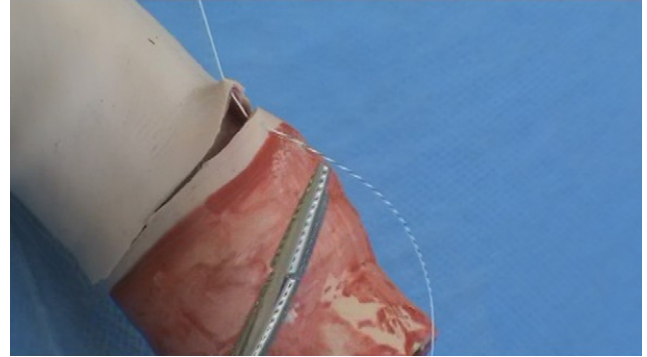
## RESULTS

The model has been used successfully to demonstrate, teach, and practice adult circumcision as well as other penile procedures with rating by trainees ranged from 7 to 10 (median: 9), and 9 of 12 trainees commented on the model using “life-like,” “excellent idea” or “extremely beneficial” expressions. Also, the faculty members of staff were receptive of the concept of this model and encouraged its use on regular basis in such courses.

Correspondence: Inquiries to Mohamed Ismat Abdulmajed, MBChB, Department of Urology, Wrexham Maelor Hospital, Croesnewydd Road, Wrexham, Clwyd LL13 7TD, UK; fax: 01978 727149; e-mail: mehmetismat@yahoo.com



**FIGURE 1.** Uncircumcised model.



**FIGURE 3.** Suture closure of incision.

## DISCUSSION

Few models are already available for training on neonatal circumcision,<sup>1,2</sup> and only recently a design has been described for adult male circumcision skills training. However, this adult model uses wood that does not simulate the penis in terms of consistency. Also, the production of such model is time consuming and the exact fabrics used have not been made clear. Crucially, the model described is static requiring 1 hand to hold the model at all times.<sup>3</sup>

By contrast, we believe that our model is ideal for use by trainees in Western countries for several reasons. First, the model we developed uses a simulated penis model which most hospitals in western countries use for teaching urethral catheterization to junior doctors and medical students, and is similar in consistency, size and shape to the human adult penis. In



**FIGURE 2.** Knife technique for circumcision.

addition, the production and set-up of the model takes little more than one minute. Importantly, the penile skin material used is extremely life like, as well as being layered, providing a genuinely realistic tissue response. Also, our model is dynamic, in that it can be moved freely in all planes, simulating actual surgical operating conditions. Even though the overall cost is £22.00, the model can be reused (on average 4 times) and, as such, the actual cost per procedure is low.

## CONCLUSIONS

Our model is particularly useful as it is life like, realistic, easy to set up, and can be used repeatedly to demonstrate adult circumcision, as well as other surgical procedures, such as dorsal slit and paraphimosis reduction.

## REFERENCES

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