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# Episiotomy and severe perineal trauma among Eastern African immigrant women giving birth in public maternity care: A population based study in Victoria, Australia

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ABSTRACT

*Background:* Eastern African immigrants from countries affected by female genital mutilation have resettled in many developed countries, including Australia. Although possibly at risk of perineal trauma and episiotomy, research investigating their perineal status post-migration is sparse.
*Aim:* To investigate variations in episiotomy use and incidence of severe perineal tear for women born in Eritrea, Ethiopia, Somalia and Sudan compared with Australian-born women.
*Methods:* A population-based study of 203,206 Australian-born and 3502 Eastern African immigrant women admitted as public patients, with singleton vaginal births between 1999 and 2007, was conducted using the Victorian Perinatal Data Collection. Descriptive and multivariable logistic regression analysis adjusting for confounders selected *a priori*, were performed to compute incidence and adjusted odds ratios.
*Findings:* Overall, 30.5% Eastern African immigrants had episiotomy compared to 17.2% Australian-born women. Severe perineal trauma occurred in 2.1% of Eastern African immigrants and 1.6% of Australian-born women. While the odds of severe perineal trauma was significantly elevated only during non-instrumental vaginal births for Eastern African immigrants {$OR_{adj}$1.56 95%CI(1.17, 2.12)}; that of episiotomy was increased during both non-instrumental {$OR_{adj}$4.47 95%CI(4.10, 4.88)} and instrumental {$OR_{adj}$2.51 95%CI(1.91, 3.29)} vaginal births.
*Conclusions:* Overall, Eastern African immigrant women experienced elevated odds of episiotomy and severe perineal tear. Health care providers need to be mindful of the increased risk of severe perineal tear in these women and enhance efforts in identification and treatment of severe perineal trauma to minimise associated short and long term morbidity. Strategies to reduce unneeded episiotomy and ways of enhancing perineal safety are also needed.


## Statement of significance

### Problem

Eastern African immigrant women from countries affected by female genital mutilation, possibly at increased risk of perineal tear and episiotomy, have resettled in many developed countries including in Australia. However, there is a scarcity of published data on episiotomy use and their perineal status during childbirth post-migration for these women.

### What is already known?

Episiotomy and perineal tear are agreed obstetric quality care indicators and perineal tear and use of episiotomy during childbirth is known to vary by insurance status, ethnicity, and a range of maternal and infant factors.

### What this paper adds

This paper reports episiotomy use and incidence of severe perineal tear (third or fourth degree tear) among Eastern

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African immigrant women compared to Australian-born women using a population-based routine perinatal data set and discusses implications for practice.

## 1. Introduction

Episiotomy is one of the oldest surgical procedures involving surgical incision of the perineum to enlarge the vaginal opening during the second stage of childbirth.[1] It is now one of the most commonly performed surgical procedures for women in the world, though it was introduced into clinical practice without strong evidence of its usefulness.[2]

The rate of episiotomy substantially increased during the first half of the 20th century, a period also known for the move to hospital birth for increasing numbers of women and for physician involvement in normal, uncomplicated childbirth.[3] Despite the overall rise in the episiotomy rate, its prevalence varies around the world, from almost a routine intervention in nearly all first births in some Latin American countries such as Argentina,[4] 3.7–75% in European countries,[5] 24.6% in the United States of America[6] and 15–16% in Australia.[4,7]

The benefit of routine episiotomy has been widely debated.[1] Some suggest it has benefits both for the mother and the neonate.[1] The suggested maternal benefits of episiotomy are reduction in the likelihood of perineal tear, particularly the severe forms (third and fourth degree tears), preservation of the muscle tone of the pelvic floor and reduced risk of faecal and urinary incontinence.[1] Furthermore, being a straight and clean incision, an episiotomy is thought to be easier to repair.[3] For the neonate, episiotomy is supposed to prevent prolonged second stage of labour, which may otherwise cause asphyxia, cranial trauma, cerebral haemorrhage and developmental delay.[1] On the other side of the debate, routine use of episiotomy has been shown to be associated with maternal morbidity, such as increased blood loss, extension of the incision to a 3rd or 4th degree laceration, cutting the anal sphincter or rectum, skin-tags, vaginal prolapse, recto-vaginal fistula, infection and dyspareunia.[1,8] A Cochrane systematic review aimed at identifying the benefits of episiotomy concluded that restrictive episiotomy use has a number of benefits over policies of routine episiotomy.[3]

On top of between country differences, the use of episiotomy has been documented to vary by ethnicity. The reasons are unclear. Previous studies have highlighted that Asian women are at increased risk of both episiotomy and perineal trauma.[9–12] This has sometimes been speculatively attributed to a shorter perineum in Asian women[13]; though studies have not actually found the perineum of Asian women to be shorter than that of non-Asians.[14,15] Hispanic ethnicity in the United States of America is also known to be associated with higher episiotomy use[16]; while African-Americans are documented to be at increased risk of severe perineal tear.[16] However, factors related to care provided are also likely to be involved. For example, insurance status has been independently associated with episiotomy, with privately insured women being more likely to have an episiotomy than public patients.[17,18]

Perineal trauma during childbirth has both short and long term health consequences.[19] A third or fourth degree perineal tear is a serious adverse obstetric outcome of vaginal birth which may lead to persistent perineal pain, sexual and urinary problems, and faecal incontinence, which in turn can have substantial impact on the physical and psychological wellbeing of postpartum women.[20,21] The incidence of third and fourth degree perineal laceration ranges between 0.1 and 10%.[22] Instrumental vaginal delivery, macrosomia, episiotomy, primiparity and advanced maternal age have been consistently associated with severe perineal tear.[11,20–22]

In general, the use of episiotomy and perineal tear are considered as measurable indicators of the quality of maternity care.[23] For example, severe perineal trauma (third and fourth degree tear) is routinely included in the reports of the Organization for Economic Co-operation and Development as a quality care indicator,[24] and in the performance Indicator reports published by a number of countries.[25–29]

The use of episiotomy and occurrence of perineal tear has rarely been examined however, for international migrants in developed countries, despite increasing international migration, and substantially increased numbers of births to immigrants. With this increasing international migration, the proportion of immigrants from African countries with high rates of female genital mutilation (FGM) has also increased in many high income countries over the past decades. Women with FGM are more likely than those without FGM to have adverse obstetric outcomes, with risks appearing to be greater with more extensive FGM.[30,31] Moreover, FGM is associated with episiotomy and perineal trauma including the severe forms of tear. Previously, it has also been noted that these Eastern African country groups experience higher risks of adverse perinatal health outcomes[32,33] and caesarean birth[34] both in Australia and other developed countries[33] post-migration. The increased level and pattern of international migration means, women with FGM from African countries are likely to be encountered in maternity care services of developed countries, where expertise in the management of birth in the presence of FGM is likely to be variable. Eastern African immigrants from Eritrea, Ethiopia, Somalia and Sudan have resettled in numerous industrialised countries, including in Australia. Beginning in the 1990s many immigrants from these Eastern African countries have resettled in Australia[35]; contributing a substantial number of births in the state of Victoria and nationally.[7] As there is a reported increased risk of obstetric complications such as severe perineal trauma for immigrant women from countries where FGM is prevalent,[36] Eastern African immigrant women may experience higher rates of perineal damage and episiotomy during vaginal birth than their Australian-born counterparts. However, no study to date has investigated the level of episiotomy use and severe perineal trauma among Eastern African immigrant women in Australia.

Therefore, this study aimed to investigate use of episiotomy and incidence of severe perineal tear (third or fourth degree lacerations) among women born in Eastern African countries (Eritrea, Ethiopia, Somalia and Sudan) compared with Australian-born women, using birth data routinely reported to the Victorian Perinatal Data Collection (VPDC).

## 2. Methods

### 2.1. Study design, data source, and study population

A population-based observational study of singleton vaginal births to Australian-born and Eastern African immigrant women was conducted. We used the Victorian Perinatal Data Collection (VPDC) to investigate episiotomy use and occurrence of severe perineal tear (third or fourth degree perineal lacerations) among women born in Eritrea, Ethiopia, Somalia and Sudan between 1999 and 2007 (access to more recent data was not possible, see Limitations). The VPDC was established in 1982 under Victoria's public health legislation as a population-based surveillance system to collect and analyse information in relation to the health of mothers and babies to contribute to improvements in their health. All births at or after 20 weeks of gestation, or birthweight of 400 g or more if of unknown gestational age, are reported to the VPDC by hospitals, birth centres and homebirth practitioners. Data include information on maternal characteristics (including self-reported