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reports on an audit of perineal trauma and perineal wound infections to ensure standards of care were optimal for women

Perineal wound infections: an audit

SUMMARY: An audit was completed by an NHS trust to determine the rate of perineal trauma amongst vaginal births and to assess the rate of perineal wound infections. The audit results confirmed a higher than average rate of perineal wound infections amongst women who had an instrumental birth. The trust decided to separate the contents of the delivery packs into two separate packs – one pack for birth and one pack for suturing - and developed a back-to-basics update session that was delivered to staff working within the maternity setting. A re-audit the following year confirmed that these measures had worked and the overall perineal wound infection rate reduced within the trust.

Keywords Perineal wound infection, perineal trauma, perineum, audit, infection, postnatal care

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Up to 85 per cent of women having a vaginal birth will sustain some degree of perineal trauma

The confidential enquiries report, released in 2014, has revealed that the number of women dying from genital tract sepsis has significantly decreased (MBRRACE-UK 2014). However, even though sepsis is no longer the leading cause of maternal death within the UK, midwives and other healthcare professionals should consider sepsis when caring for all women throughout pregnancy, birth and the postnatal period.

Background

Lancashire teaching hospitals is an NHS trust based within the northwest of England. The Trust cares for women who live within the Lancashire area and approximately 4,600 babies are born there each year. The Trust covers two sites across Lancashire – one site includes a consultant-led delivery suite and the other site offers women care within a free standing midwifery-led unit.

Albers et el (2005) report that up to 85 per cent of women having a vaginal birth will sustain some degree of perineal trauma. The Royal College of Midwives (RCM) (2012) states that, following perineal trauma, the repair of the perineum is an important part of postnatal care. With this in mind, the Trust was keen to explore its rates of perineal trauma and perineal wound infections, to ensure that standards of care were optimal for women giving birth within the Trust.

Audit

The audit was completed as a retrospective case-note audit – a time period of one month was used to give the audit team a good sample size. All women who had given birth within this

Table 1

Criteria	Numbers
Total births in the audit period	359
Vaginal births	280
Vaginal births with perineal trauma within the audit criteria	141

Table 2

Type of birth	Numbers	Percentage of audited notes (total=141)
Normal birth	107	76 per cent
Neville Barnes forceps	23	16 per cent
Ventouse birth (Kiwi and mityvac)	10	8 per cent

Table 3

Criteria	Numbers	Percentage of vaginal births (total=280)
Second degree perineal trauma	82	29 per cent
Episiotomy	44	16 per cent
Third degree perineal trauma	14	5 per cent
Fourth degree perineal trauma	1	<1 per cent

one month period and had a second degree, third degree, fourth degree perineal trauma or episiotomy were included within the audit. It was decided that women giving birth across both sites would be included within the audit. A limitation of the audit was that women with a lower degree of perineal trauma would not have been included; however, the audit team felt that these women were less likely to develop a perineal wound infection when compared to the audit sample. The audit team was aware that women with all degrees of perineal trauma should be the subject of further audits in the future.

Table 4

Type of birth	Numbers of confirmed infections	Percentage of women who developed perineal wound infections (according to type of birth)
Normal births	9	8 per cent
Instrumental births	16	48 per cent

A multidisciplinary approach was used for this audit. The audit began with the audit team auditing the case notes and then the infection prevention and control team would check the local database for confirmed infections. Once the database was checked, the infection prevention and control team reported these results back to the safety and quality midwife who compiled the audit report and disseminated the results to all members of staff working within the maternity setting.

Findings

The audit was completed and the results showed that 359 women gave birth within the Trust across both sites, as can be seen in *Table 1*. Of these women, 280 had a vaginal birth, 141 of whom had a second-, third- or fourth degree perineal trauma or an episiotomy. One hundred and seven women had a normal birth whilst 33 women had an instrumental birth (shown in *Tables 2* and *3*).

Of the women who gave birth within the audit period, 25 developed a perineal wound infection. The audit team classed a wound infection as a positive swab result from a perineal wound, taken within 28 days following birth. Perineal wound swabs taken by any healthcare professional either within hospital or community setting were included within the audit results.

The results from the audit demonstrated an overall 8 per cent perineal wound infection rate for women having a normal birth (*Table 4*), which is slightly lower than the average rate, as reported by Johnson et al (2014), but a higher than expected rate of perineal wound infection in women having an instrumental birth. Of the women who had an instrumental birth, 48 per cent developed perineal wound infections, compared to 8 per cent of women who had a normal vaginal birth. This showed a noticeable difference between the wound infection rates of different types of birth. All the women who developed a perineal wound infection, had an episiotomy performed at birth and had given birth on the delivery suite at the consultant-led unit. This alerted the audit team to explore practice on the delivery suite further, particularly for instrumental births.

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Observations

The audit team observed care on the delivery suite and noted that basic infection prevention and control procedures were not always being followed after birth and prior to suturing. The Trust used prepared birth packs for women on >>

Table 5

Criteria	Numbers
Total births in the audit period	386
Vaginal births	304
Vaginal births with perineal trauma within the audit criteria	121

Table 6

Type of birth	Numbers	Percentage of audited notes(total=121)
Normal birth	95	79 per cent
Neville Barnes forceps	15	12 per cent
Ventouse birth (Kiwi and mityvac)	10	8 per cent
Kjeillands forceps	1	1 per cent

Table 7

Criteria	Numbers	Percentage of vaginal births (total=304)
Second degree perineal trauma	71	23 per cent
Episiotomy	36	12 per cent
Third degree perineal trauma	13	4 per cent
Fourth degree perineal trauma	1	<1 per cent

the delivery suite and the stand alone birth suite. These birth packs included instruments for use during birth and instruments for use when suturing. While this is convenient for the member of staff facilitating the birth and suturing following birth, this was encouraging staff to commence perineal suturing without changing their gloves, washing hands or adequately preparing the perineum for suturing using an aseptic method as recommended by Kettle and Tohill (2013). The audit team also noted, during the audit, that

Table 8

Type of birth	Numbers of confirmed infections	Percentage of women who developed perineal wound infections
Normal births	4	4 per cent
Instrumental births	2	8 per cent

women were not being asked at each postnatal contact, if they had any concerns with their perineum. As a consequence of this, women were not always offered inspection of their perineum. Although it is difficult to say whether the wound infection rate wound have decreased, it is important for midwives and healthcare professionals to always approach women at each postnatal contact and ask whether they have any concerns about their perineal wound and to offer to check the perineum if the woman has any concerns (National Institute of Health and Care Excellence (NICE) 2014).

Making changes

In view of this observation, the Trust decided to amend the birth packs that were available. The instruments for use during suturing were removed, and separate suture packs were developed. A back-to-basics update session was also developed and delivered to all staff working within the maternity setting. The session discussed the audit results, offered staff up-to-date guidelines regarding the importance of correct infection prevention and control procedures, the importance of asking women about their perineal wound and the importance of educating women about the signs and symptoms of infection and how to contact help if these symptoms occur (NICE 2014).

All members of staff continue to receive the important back-to-basics session, with the re-audit results now included

Second audit

Once these measures were put into practice, the audit was repeated. The audit followed the same procedure as the previous audit. The same sample size was used for the re-audit, using a one month period for women who had given birth within the Trust and who had a second-, third-, fourth degree perineal trauma or an episiotomy (*Table 5*).

Findings

The numbers of case notes audited were similar, with a slightly higher number of births during the re-audit (as shown in *Table 5* and *Graph 1*). However, there were fewer women with perineal trauma within the audit sample (as demonstrated in *Table 7* and *Graph 2*). The number of perineal wound infections during the re-audit was remarkably different from the original audit and demonstrated a reduction in the rate of perineal wound infections for women giving birth within the Trust. The overall rate of confirmed perineal wound infections of 4 per cent for normal births, and 8 per cent for instrumental births, as demonstrated in *Table 8*, was much lower than the previous audit findings.

The audit team was pleasantly surprised with the results – a huge improvement on the perineal wound infection rates from the

Chart 1

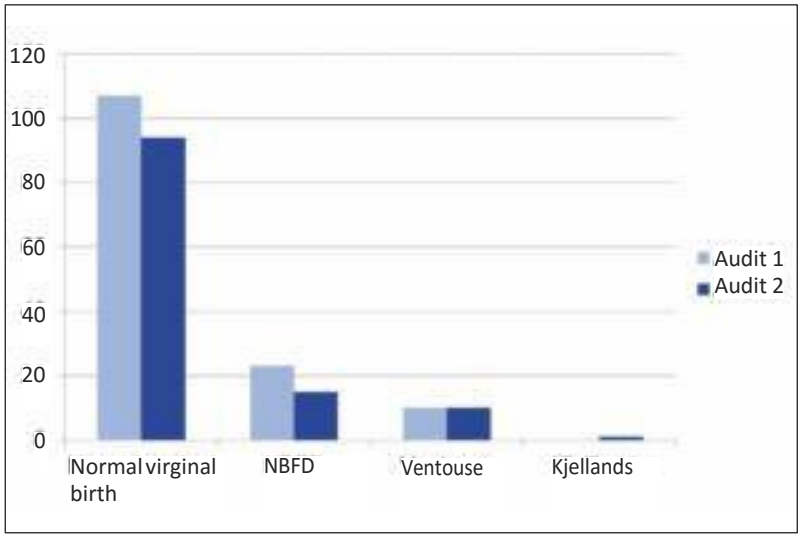


Chart 2

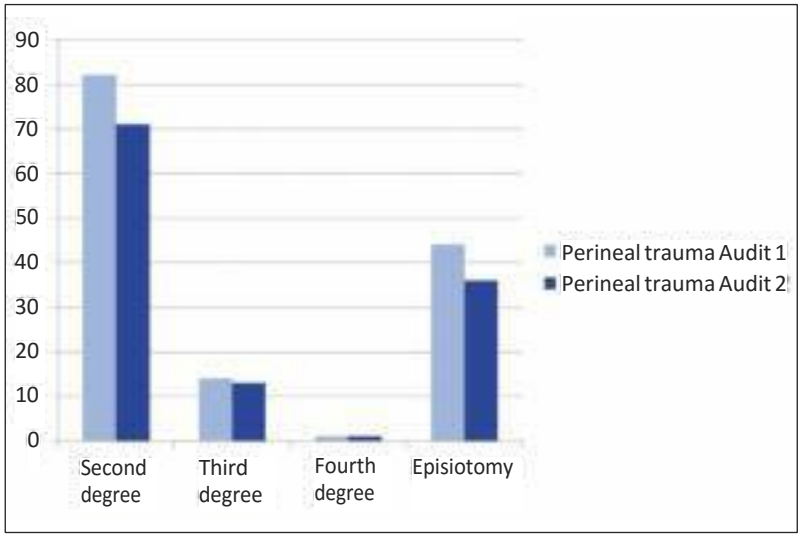
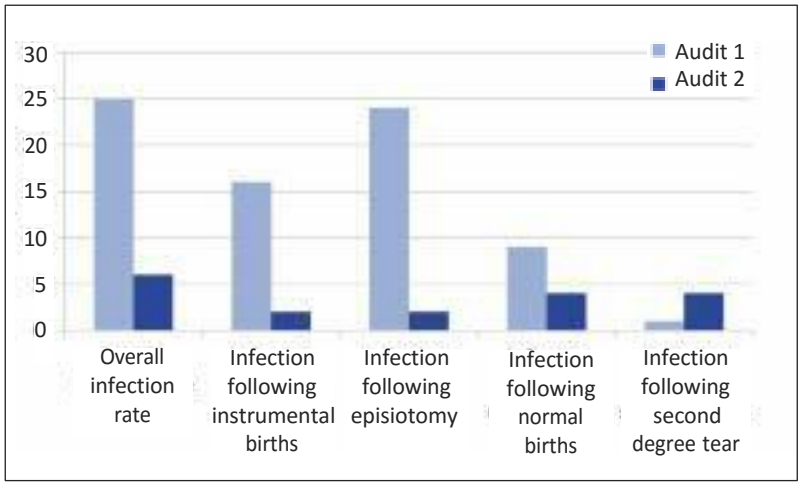


Chart 3



previous audit. All members of staff working within the maternity setting were informed of these excellent audit findings and staff were praised for good clinical practice, with particular emphasis on good infection prevention. However, it was noted that four of the women who developed a perineal wound infection, had a second degree perineal trauma. The previous audit had found that all women who developed a wound infection, had had an episiotomy at birth; no perineal wound infections had developed following any other type of perineal trauma. Two of the women with confirmed perineal wound infections, had had instrumental births with an episiotomy, making episiotomies a lower risk than in the previous audit.

Using the results

All members of staff were reminded of the importance of good infection prevention and control when suturing the perineum, and suture packs remain separated from the birth packs used by the Trust. All members of staff continue to receive the important back-to-basics session, with the re-audit results now included. All members of staff are reminded that good infection prevention procedures should be used for all women, regardless of the degree of perineal trauma, and all women should be made aware of the signs and symptoms of perineal wound infection and offered assessment of their perineal wound by healthcare professionals, should they have any concerns. tpm

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