Female perineal injuries in children and adolescents presenting to a paediatric emergency department

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ABSTRACT
This retrospective case series determined documentation quality and likelihood of safeguarding issues in girls aged 0–15 years with perineal and genital injuries presenting to a paediatric emergency department (ED). During the period between 2002 and 2010, cases were identified and clinical information was recorded. Cases were cross-referenced against the hospital’s safeguarding unit’s records up to 2011. In total, 181 case notes were available for review with 76.2% of patients discharged home from the ED. Fewer than 50% of case notes contained clear anatomical description of the injuries. In 51 (28.2%) cases, child safeguarding issues were considered, with specific referrals made to safeguarding services in 20 of these (11.0%). Only one case involved subsequent child safeguarding proceedings. Clear documentation of injury patterns by medical staff was poor, but medical and nursing staff should not be anxious about dealing with this cohort of patients as they are no different from other incidental injuries needing diligent levels of child safeguarding awareness.

INTRODUCTION
Perineal and genital injuries in both male and female children are a relatively small proportion of all injuries1 which present to Emergency Departments (EDs). In girls, the majority of injuries are ‘straddle’ type incidents and generally result in relatively minor injuries.2 Unlike boys, in whom it has been suggested that sexual abuse is a common cause,3 there is no evidence that this is so in girls presenting to an ED.

There were two aims to the study. First, anxiety is often high among staff when female patients present to EDs with perineal and genital injuries, partly out of fear that the injury may be abusive. There is no good evidence of the incidence of abusive injuries in an unselected UK ED population, so we set out to cross-correlate ED attendees with subsequent child protection concerns. Second, we set out to determine how accurately examination findings were documented as we know that junior staff are usually unfamiliar with describing examination findings in this part of the body.

METHODS
Leicester Royal Infirmary is a tertiary hospital with a children’s ED seeing children and young people up to 15 years of age with attendances of approximately 38 000/year. This case series was performed with the appropriate permission from the hospital audit and effectiveness team who determined this to be a service evaluation.

In our department, safeguarding concerns identified by medical or nursing staff will result in discussion with senior staff, an inpatient investigation, if appropriate, and a referral to the hospital’s children’s safeguarding unit. For children subsequently discharged from the department, this referral may simply be held on record or (more frequently) the safeguarding team will investigate further, depending on the clinical details and information from other agencies. In our area, concerns regarding sexual or physical abuse would be handled by a community team so that alleged assaults or injuries with prior social care involvement do not commonly need to present to our ED.

The ED Information System (EDIS) was interrogated from November 2002 (when full computer records were established) to 2010 for all girls under the age of 16 years who presented to the ED with any injury to the genital, perineal or groin region with wide search terms.

All identified patients were cross-referenced against the hospitals safeguarding database for dates both prior to and for 1–8 years post-attendance. There are close links between the hospital’s database and that of the county and city. Information provided from the safeguarding team was limited to stating whether child protection interventions and criminal prosecutions were undertaken, for the same child. Medical information was not supplied to or from the safeguarding team.

Available case notes were obtained and reviewed by three of the authors using a predetermined proforma agreed by all the investigators. Reviewers were Paediatric Emergency Medicine doctors with at least 3 years of experience in recognising and assessing safeguarding and minor injuries in children and young people. The proforma recorded the documented nature and site of the injury. Safeguarding concerns were classified as considered (documented clearly as positive or negative findings) or not. Patients for whom case notes were not available were reviewed separately to record their basic demographic information only.

RESULTS
Two hundred and sixty-one visits with perineal injuries were initially identified through EDIS with 31 (11.9%) found to be non-traumatic or non-perineal. Forty-nine (18.8%) case notes were not available or missing (primarily pre-2007 when the storage of written records altered). For all 230 cases (ie, for those with and without available notes), there were no other safeguarding concerns.
identified for up to 8 years following their initial presentation (figure 1).

Table 1 demonstrates the demographic details via age, arrival time, day of week, seniority of initial reviewing clinician and outcome for patients whose case notes were available (181 presentations). The mean age of the children with missing notes was not significantly different (6.75) than those with notes available (6.25).

The most common injury was to labia, although the location was not documented at all in 34 (18.8%) of cases and there was no diagram in 94 (51.9%). Of those admitted, 18 underwent an operative exploration or surgical repair of their injury.

Fifty-one children (28.2%) had case notes that specifically documented consideration of safeguarding concerns, and 18 were referred (table 2). An additional eight cases had safeguarding referrals made where safeguarding issues had not been clearly identified in the notes (this is generally a result of retrospective review of the notes by seniors or discussions following handover), resulting in 26 presentations referred for case review. In the cases where safeguarding follow-up occurred, intravaginal injuries (n=12, 60%) were the most common type of injury; however, in the four cases of suspected sexual abuse, no abnormality was documented in two cases and a perineal laceration documented in the others. Twenty cases were formally investigated by the team. These related to 14 individuals (7%). There was only one de novo formal investigation, resulting in child protection proceedings in this cohort of patients. Six of the 14 presentations related to deliberate self-harm from one individual who was already known to the safeguarding team and had a care plan in place.

**DISCUSSION**

This retrospective review represents the largest published case series of undifferentiated perineal, genital and anal injury in girls presenting to a paediatric ED. Previous studies have quoted very similar findings in terms of mechanism of injury.

The majority of injuries were labial or per-vaginal (110/181 60.8%) and these types of injuries are likely to have a clear and consistent mechanism. The absence of significant child protection concerns should reassure staff that although vigilance is important, this cohort of patients should be treated no differently at first contact than other injuries.

Our findings suggest that documentation is often inadequate and therefore the potential to miss child safeguarding issues exists, since intravaginal injury correlates with abuse. An unvalidated scoring system to describe the adequacy of documentation in the case of female straddle injuries has been described previously.

In terms of study limitation, we are unable to tell if any child presented with child safeguarding issues at other locations. However, this is not a common scenario in our region. In addition, a relatively high proportion of case notes were not available for review (30.6%); however, none of these patients were registered on the hospital’s child protection database.

As a result of our findings, we created a stamp for use in the notes (figure 2), with anatomical representation of the female perineum, in the same way as the body stamps we use for

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**Figure 1** Safeguarding outcome of patients presenting with perineal or genital injuries between 2002 and 2010.
injuries of other parts of the body. This helps to improve accuracy of description, and the next stage of a quality improvement programme will be to see if the use of diagrams improves.

In conclusion, we have found that in cases of female perineal and genital injury presenting to an ED, the frequency of identified child safeguarding concerns is low and should be handled no differently from any other type of injury presenting to the ED if there is no suggestion of abuse in the history. Description of the findings on examination should be equally good as for other injuries, and an anatomically correct body stamp may aid documentation.

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Table 1 Demographics of patients with available notes

| Demographics                        | Included cases (n=181) |
|-------------------------------------|------------------------|
| Mean age (median)                   | 6.25 (5)               |
| Arrival time                        |                        |
| 0801–1600                           | 60 (33.1%)             |
| 1601–0000                           | 115 (63.5%)            |
| 0001–0080                           | 6 (3.4%)               |
| Day of week                         |                        |
| Weekday                             | 109 (60.2%)            |
| Weekend                             | 72 (39.8%)             |
| Location of incident                |                        |
| Home                                | 124 (68.5%)            |
| School/nursery                      | 11 (6.1%)              |
| Outdoors/public place               | 33 (18.2%)             |
| Other/not clear                     | 13 (7.2%)              |
| Seniority of initial clinician      |                        |
| Junior doctor (resident)            | 105 (58.0%)            |
| Registrar (fellow)                  | 65 (35.9%)             |
| Consultant (attending)              | 10 (5.5%)              |
| Unclear/unknown                     | 1 (0.6%)               |
| Mechanism of injury                 |                        |
| Straddle                            | 85 (46.9%)             |
| Bike                                | 14                     |
| Climbing frame                      | 14                     |
| Other                               | 57                     |
| Fall                                | 49 (27.1%)             |
| Foreign body insertion              | 18 (9.9%)              |
| Penetrating trauma                  | 7 (3.9%)               |
| Other/not clearly defined           | 22 (12.2%)             |
| Type of injury                      |                        |
| Bruising/abrasion                   | 50 (27.6%)             |
| Laceration                          | 93 (51.4%)             |
| No abnormality detected             | 33 (18.2%)             |
| Not recorded/other                  | 5 (2.8%)               |
| Location of injury                  |                        |
| Labial                              | 72 (39.8%)             |
| Perivaginal                         | 38 (20.1%)             |
| Intravaginal                        | 28 (15.5%)             |
| Anal                                | 8 (4.4%)               |
| Perineum                            | 1 (0.6%)               |
| Not recorded                        | 34 (18.8%)             |
| Outcome                             |                        |
| Admitted                            | 43 (23.8%)             |
| Discharged                          | 138 (76.2%)            |

Table 2 Outcome of cases where safeguarding issues considered

| Evidence in notes of safeguarding issue considered | Yes (51) | No (130) |
|---------------------------------------------------|----------|----------|
| Safe guarding referral made from ED               |          |          |
| Yes                                               | 18 (35.3%)| 8 (6.2%) |
| No                                                | 33 (64.7%)| 122 (93.8%)|
| Safeguarding concern                              |          |          |
| Welfare/unexplained injury                        | 7        | 5        |
| Child sexual abuse                                | 4        | 0        |
| Deliberate self-harm                              | 6*       | 1        |
| Outside agency request                            | 1        | 2        |
| Subsequent safeguarding team follow-up            |          |          |
| Yes                                               | 14 (27.5%)| 6 (4.6%) |
| No                                                | 35 (68.6%)| 124 (95.4%)|
| Unclear/not available                             | 2 (3.9%) | 0 (0%)   |
| Final outcome of safeguarding team review         |          |          |
| No action required                                 | 7        | 6        |
| Known case with ongoing support in place          | 6*       |          |
| Child protection proceedings instigated           | 1        | 0        |

*The same individual presented for all these cases and represented 6 of the 14 safeguarding follow-ups.

ED, emergency department.

Figure 2 Zone of injury stamp.

Competing interests None.

Ethics approval This study was classified as a service evaluation.

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Data sharing statement The data are held by the UHL Audit Office.

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