

## The Management of Postpartum Anal Sphincter Injury

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### ABSTRACT

*Injury to the anal sphincter is recognized as the most common cause of anal incontinence (AI) and anorectal symptoms in otherwise healthy women. The true prevalence of AI related to anal sphincter injury (ASI) may be underestimated. The reported rates of AI following the primary repair of ASI range between 15% and 61%, with a mean of 39%. This high prevalence highlights the need to ensure our surgical techniques and postoperative management is optimal. Building a right diagnosis at time of damage will help acceptable repair and may avoid future indulgence. This review drafts the elements, diagnosis, and administration of obstetric anal sphincter damage.*

**Keywords:** anal sphincter, anal sphincter injury, perineal injury

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### INTRODUCTION

Perineal injury is the most common maternal misery connected with vaginal origin [1]. Anal sphincter injury (ASI) is a leading complexity that can somewhat affect women's aspect of life [2]. It is estimated that over 85% of women who have a vaginal delivery will sustain some degree of perineal trauma, 60–70% of whom will require suturing [3]. Despite the knowledge gained, little attention was paid to these important aspects related to management of perineal care at childbirth, since many professionals routinely use practices considered harmful to perineal integrity, characterizing practices that are not evidence-based.

### DEFINITION

Anatomically, the perineum is the entirety of the pelvic outlet inferior to the pelvic floor. The Royal College of Obstetricians and Gynaecologists (RCOG) has declared

guidelines about the division of impromptu tears, which allows classification to be made between injuries to the external and internal anal sphincters and anal epithelium (Table 1) [4]. The incidence of clinical third- and fourth-degree tears varies widely. It is reported at between 0.5–3% in Europe and 6–9% in the USA [5]. These lacerations will have both short-term and long-term complications [6]. Webb et al in a case study of postpartum perineal trauma management revealed that short-term complication is an infection, and long-term problems that can occur such as dyspareunia, urinary and anal incontinence, psychosocial problems [7]. In the bulk these expressions and injuries are approximately minor and short term but persistent indulgence of flatus or urgency of defecation are emotionally and socially weaken and can setback return to work after delivery.

**Table 1.** Definition of spontaneous tears.

Degree	Trauma
First	Injury to the skin only
Second	Injury to the perineum involving perineal muscles but not involving the anal sphincter
Third	Injury to the perineum involving the anal sphincter complex 3a: less than 50% of EAS thickness torn 3b: more than 50% of EAS thickness torn 3c: IAS torn
Fourth	Injury to perineum involving the anal sphincter complex (EAS and IAS) and anal epithelium

EAS, external anal sphincter; IAS, internal anal sphincter.

### Clinical Impact

Anal sphincter damage and tears of a lesser degree can have a somewhat emotional consequence on a woman's physical and emotional happiness. Concerns identified by women include anxieties regarding the effects of the injury on continence, body image and sexual function. One of the most nonsatisfying rapid complexity of perineal damage is perineal pain. Short-term perineal pain is associated with edema and bruising, which can be the result of tight sutures, infection, or wound breakdown. Obstetrical sphincter damage has a diversity of long-term complexity of which anal indulgence is the most nonsatisfying and exhausting. Anal incontinence incorporates a range of symptoms including: flatal incontinence, passive soiling, or incontinence of liquid or solid stool [8].

### Risk Factors for Anal Sphincter Injury

Knowledge of anal sphincter injury risk factors is not generally useful in the prevention or prediction of anal sphincter injury [9]. However, risk factor awareness when combined with thorough perineal examination may increase detection rates [9].

- Asian ethnicity [10]
- Nulliparity [11]
- Birthweight greater than 4 kg [10]
- Shoulder dystocia [10]
- Occipito-posterior positio [11]
- Prolonged second stage of labour [11]
- Instrumental delivery [10]

### Preventing of Anal Sphincter Injury

Women information and antenatal education on measures that may have a protective effect against perineal morbidity. Ideally, preliminary education about postpartum care is begun during prenatal visits to help women understand typical changes that will occur during childbirth and recovery [12]. Clinicians should explain to women that the evidence for the protective effect of episiotomy is conflicting. There is no doubt that restricted use of episiotomy, of any type, is preferable in women having a spontaneous vaginal delivery [13]. Hospital Episode Statistics data have shown that episiotomy is associated with the lowest risk of ASI. Some studies have shown a protective effect while others have not [14, 15]. However, there is evidence that a mediolateral episiotomy should be performed with instrumental deliveries as it appears to have a protective effect on ASI [10, 16]. If instrumental delivery is indicated, vacuum extraction carries less risk to the anal sphincter than forceps [17, 18]. Some have raised the point of informed consent at the time of instrumental delivery, arguing that disclosure of the ASI risk should be included, as well as the risks and benefits of any alternative such as Caesarean section [19]. Studies evaluating antepartum perineal massage, pushing position (kneeling vs. sitting), open versus closed glottis pushing, Ritgen's manoeuvre, water birth, and delayed pushing (in women with epidural), failed to show evidence of a protective effect on the anal canal [20–25].

## **DIAGNOSIS OF ANAL SPHINCTER INJURY**

Attentive examination of the perineum that includes an alimentary examination for those with a tear that is more than sketchy in depth, should be operate in all women prior to fasten [26]. According to NICE perineal care guidance [27], before assessing for genital trauma, healthcare professionals should:

- Explain to the woman what they plan to do and why
- Offer inhalational analgesia
- Ensure good lighting
- Location the woman so that she is relaxed and so that the genital formation can be visualized clearly

Palpation is best done with the examiner's dominant index inserted in the anus, and the ipsilateral thumb in the vagina [26]. The two fingers then palpate with a "pill-rolling" motion to assess thickness.

## **GENERAL PRINCIPLES AND TYPES OF REPAIRS**

Accurate diagnosis and effective care of perineal injuries requires systematic perineal assessment and best practice repair techniques [28]. Repairs are typically carried out in the delivery room or the operating room. The operating room offers the benefits of access to optimal lighting, appropriate equipment, and aseptic conditions. Although frequently corrected under local anesthetic, general or sectional anesthesia may be excellent as they administer both analgesia and muscle expansion [26]. It is apparent from published data that, regardless of the mode of repair employed, the outcome of primary repair is often suboptimal, at least as identified by subsequent ultrasound appearances of the sphincter [29]. The quality of primary repair needs to be improved regardless of the mode employed and resources should be invested in surgical training of

obstetricians in obstetric anal sphincter injury.

### **Suture Material**

Although the type of suture material used in the repair of obstetric anal sphincter tears may be important. Both absorbable and delayed absorbable sutures are commonly used. Although some colorectal surgeons specialist use non-absorbable stitch for secondary correction of anal sphincters, there is interest that such stitch may consequences in stitch abscesses or stitch ends may lead discomfort requiring their removal [30]. A randomized trial by Williams et al. [31] (n = 112), compared ASI repairs with polyglactin (Vicryl) and polydioxanone (PDS). At 6 weeks, there was no significant difference in suture-related morbidity.

### **Repair of the Anal Mucosa**

Traditionally, the methods portray to repair the torn anal mucosa was to introduce disrupted stitch with the knot connected within the anal canal. However, this was recommended when catgut was in use to minimize tissue reaction and infection [32]. There are recently no studies that provides an advantage from any of these repair methods for the anal mucosa comparatively the outcomes including anovaginal and rectovaginal fistulas.

### **Separate Repair of the Internal Anal Sphincter**

In 1999, Sultan first described separate repair of the internal anal sphincter (IAS) during primary repair using the end-to-end technique [33]. Since then, a number of studies have demonstrated that a separate repair of the IAS improves the likelihood of subsequent anal continence [34, 35].

### **Repair of External Anal Sphincter**

When reforming a torn anal sphincter that follows vaginal delivery the outside anal sphincter can be estimated by 1 of 2 repair

methods; end-to-end repair or flap repair. A Cochrane review demonstrated no difference in outcomes between an end-to-end and an overlap repair and therefore the end-to-end technique can be used for all external sphincter tears [36].

## POSTOPERATIVE MANAGEMENT

### Prophylactic Antibiotics

Prophylactic single dose injecting antibiotics (2nd generation cephalosporin, e.g., cefotetan or cefoxitin) should be carried out for the decrease in perineal wound complexity that follows the reforming of obstetrical anal sphincter damage [30].

### Pain Management

Comfort measures include oral analgesics, topical treatments (e.g., cold or warm packs), and topical anesthetics.

- Topical treatments; topical treatments available to reduce perineal pain include ice packs or other cooling agents and witch hazel pads (i.e., hamamelis water). In a meta-analysis of 10 trials comparing localized cooling treatments with no treatment or other forms of treatment (e.g., gel pads with compression, witch hazel, warm baths), women treated with ice packs reported decreased pain at 24 to 72 hours after birth compared with no treatment (risk ratio 0.61, 95% 0.41–0.91, one study) [37].
- Topical anesthetics; benzocaine spray is often offered to patients after vaginal birth to reduce perineal pain, although a meta-analysis of eight trials reported no difference in pain relief with other topical anesthetics (not including benzocaine) compared with placebo [38].
- Oral analgesics; oral analgesics most commonly used include nonsteroidal anti-inflammatory drugs (NSAIDs) and acetaminophen. In a meta-analysis of 28 trials comparing NSAID (13 different agents) with either placebo or

acetaminophen for early postpartum perineal pain, adequate pain relief at four hours was nearly twice as likely with NSAID compared with placebo and nearly 50 percent more likely for NSAID compared with acetaminophen [39].

### Constipation Prevention

Laxatives (e.g., lactulose) should be prescribed following the primary repair of obstetrical anal sphincter injury as they are associated with earlier and less painful first bowel motions and earlier discharge from hospital. Constipating agents and bulking agents are not recommended [40].

### Prognosis

Women should be advised that 60–80% of women are asymptomatic 12 months following delivery and EAS repair [31]. Women with anal incontinence following obstetrical anal sphincter injury should be referred for pelvic floor physiotherapy [41].

### Future Deliveries

All women who have suffered ASI should be counselled regarding the mode of delivery and this should be clearly documented in the notes. After a successful repair of obstetrical anal sphincter injuries, most women can safely deliver vaginally in a future pregnancy. If the woman is demonstrative or shows asymmetrically low uncordial manometric pressures and/or internal ultrasonographic damage, a constituent caesarean section may be preferred [32].

### Long-Term Issues

#### *Perineal Pain or Dyspareunia*

Prolonged postpartum perineal pain and dyspareunia are relatively common. In a retrospective study comparing the degree of obstetric perineal laceration and sexual function in primiparous women, approximately 20 percent reported dyspareunia at six months after delivery [42]. Episiotomy did not increase the risk

of postpartum dyspareunia relative to same degree of spontaneous laceration [42]. Women with persistent perineal pain or dyspareunia at three months postpartum can benefit from pelvic floor muscle therapy (PFMT) for symptom reduction, although the data are conflicting [43, 44].

### Incontinence

PFMT appears to improve postpartum urinary and anal incontinence symptoms at 1 year, but not in the long-term (6–12 years) [43, 44].

### CONCLUSION

The best way to increase the recognition and diagnosis of obstetric anal sphincter injury is to increase awareness about this problem and its consequences among healthcare professionals.

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