

# Balloon disimpaction of the baby's head at emergency caesarean during the second stage of labour

Interventional procedures guidance

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[www.nice.org.uk/guidance/ipg744](https://www.nice.org.uk/guidance/ipg744)

## Your responsibility

This guidance represents the view of NICE, arrived at after careful consideration of the evidence available. When exercising their judgement, healthcare professionals are expected to take this guidance fully into account, and specifically any special arrangements relating to the introduction of new interventional procedures. The guidance does not override the individual responsibility of healthcare professionals to make decisions appropriate to the circumstances of the individual patient, in consultation with the patient and/or guardian or carer.

All problems (adverse events) related to a medicine or medical device used for treatment or in a procedure should be reported to the Medicines and Healthcare products Regulatory Agency using the [Yellow Card Scheme](#).

Commissioners and/or providers have a responsibility to implement the guidance, in their

local context, in light of their duties to have due regard to the need to eliminate unlawful discrimination, advance equality of opportunity, and foster good relations. Nothing in this guidance should be interpreted in a way that would be inconsistent with compliance with those duties. Providers should ensure that governance structures are in place to review, authorise and monitor the introduction of new devices and procedures.

Commissioners and providers have a responsibility to promote an environmentally sustainable health and care system and should assess and reduce the environmental impact of implementing NICE recommendations wherever possible.

This guidance replaces IPG515.

# 1 Recommendations

- 1.1 Evidence on the safety and efficacy of balloon disimpaction of the baby's head at emergency caesarean during the second stage of labour is adequate to support using this procedure provided that standard arrangements are in place for clinical governance, consent and audit. Find out what standard arrangements mean on the NICE interventional procedures guidance page.
- 1.2 For auditing the outcomes of this procedure, the main efficacy and safety outcomes identified in this guidance can be entered into NICE's interventional procedures outcomes audit tool (for use at local discretion).
- 1.3 The procedure should only be done by maternity staff trained in managing impacted babies' heads at caesarean birth.

## 2 The condition, current treatments and procedure

### The condition

- 2.1 When the baby's head is impacted, a caesarean carries considerably increased risks. Delivery of the baby can be difficult if the head is impacted deep within the pelvis.

### Current treatments

- 2.2 Two approaches are commonly used to disimpact an engaged baby's head. One involves the surgeon or an assistant placing a hand through the vagina and pushing the baby's head back up the pelvis. This can be associated with vaginal tissue trauma. The other approach (reverse breech extraction) involves the surgeon delivering the baby's feet first through the uterine incision, and then delivering the head. Difficulties in disimpacting a deeply engaged baby's head can delay the birth of a baby that is already at risk. There is a risk of complications such as extension of the uterine incision, haemorrhage, infection and bladder injury. For the baby, complications include umbilical artery acidosis, skull fracture, hypoxic ischaemic encephalopathy and brachial plexus injury.

### The procedure

- 2.3 Balloon disimpaction of an engaged baby's head aims to elevate the head, without trauma. It is usually done immediately before an emergency caesarean done at full dilation, during the second stage of labour.
- 2.4 A disposable soft silicone balloon device is inserted into the vagina, using a lubricant. The balloon is pushed posteriorly towards the coccyx and placed between the pelvic floor and the baby's head. The balloon surface is placed in contact with the head while the base plate of the device rests on the anococcygeal ligament to prevent downward

displacement when the device is inflated. The procedure is similar to the placement of a ventouse cup. Once the device is in position, the balloon is inflated using sterile saline through a tube connected to a 2-way tap. The balloon is designed to inflate only in an upward direction. Inflating the balloon elevates the engaged head out of the pelvis by a few centimetres. The intention is to make the birth easier, with less manipulation through the abdominal wound, and to reduce the risk of injury. Immediately after birth the balloon is deflated by opening the 2-way tap, and the device is removed from the vagina by traction. After the caesarean, the vagina is inspected for trauma.

## 3 Committee considerations

### The evidence

- 3.1 NICE did a rapid review of the published literature on the efficacy and safety of this procedure. This comprised a comprehensive literature search and detailed review of the evidence from 5 sources, which was discussed by the committee. The evidence included 1 systematic review, 3 randomised controlled trials (2 of which were also included in the systematic review) and 1 cohort study. It is presented in the [summary of key evidence section in the interventional procedures overview](#). Other relevant literature is in the appendix of the overview.
- 3.2 The professional experts and the committee considered the key efficacy outcomes to be:
- outcomes for the woman – reduced time from the decision to have a caesarean to birth, reduced time from uterine incision to birth, extension of uterine incision, blood loss, and operative complications

- outcomes for the baby – improved Apgar scores and umbilical artery pH, and reduced:
    - sepsis
    - need for admission to a special care baby unit or newborn intensive care unit
    - need for intubation
    - death.
- 3.3 The professional experts and the committee considered the key safety outcomes to be: infection, trauma to the vagina, and trauma to the baby's head.
- 3.4 Patient commentary was sought but none was received.

## Committee comments

- 3.5 It would be helpful to collect outcomes for the woman and baby after this procedure as part of a national audit.
- 3.6 The committee was advised that there is no standardised definition of an impacted baby's head.
- 3.7 The committee was informed that there is a requirement for training in this procedure and noted this is provided by the manufacturer.
- 3.8 The committee did not note any major safety concerns with this procedure.

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## Endorsing organisation

This guidance has been endorsed by [Healthcare Improvement Scotland](#).

## Accreditation

