Risks of assisted delivery for mother and baby

What assisted delivery involves

Assisted vaginal delivery is used when a clinician helps guide the baby out using either forceps or a vacuum cup. Forceps are curved metal instruments placed around the baby's head, while vacuum extraction uses a suction cup attached to the baby's scalp. In both cases, traction is applied during contractions while the birthing parent pushes. The clinician must usually confirm that the cervix is fully dilated, the baby's head is low enough, the position is known, and vaginal birth is considered achievable.

The decision is often made because the second stage of labor is prolonged, the birthing parent is too exhausted or medically unwell to continue pushing effectively, or the baby shows signs of possible compromise. Assisted delivery may reduce the time to birth when minutes matter. However, because instruments add force to already stretched maternal tissues and to the baby's head or scalp, it changes the pattern of risk compared with spontaneous vaginal birth.

Forceps and vacuum are not interchangeable in every situation. Forceps may be chosen when more controlled rotation or guidance is needed, while vacuum may be preferred in some cases because it is associated with less severe maternal perineal trauma. Vacuum is more likely to fail or detach, and it is associated

with certain scalp and bleeding complications in the baby. The safest choice depends on fetal position, gestational age, urgency, and the clinician's expertise.

Maternal risks during and immediately after birth

The most common maternal risks relate to trauma of the vagina, perineum, pelvic floor, and anal sphincter. Tears may involve the skin and muscles around the vaginal opening, and more severe third- or fourth-degree tears extend into the anal sphincter or rectal lining. These injuries are more strongly associated with forceps than with vacuum, although either instrument can contribute, particularly if the baby is large, the head is malpositioned, or birth is rapid and difficult.

Postpartum hemorrhage is another important risk. Bleeding may occur because of uterine atony, genital tract trauma, retained tissue, or a combination of factors. A scientific study of maternal complications associated with assisted vaginal delivery reported complications in 33.33% of forceps-assisted cases and 18.96% of vacuum extraction cases, with postpartum hemorrhage identified as the primary complication. These figures come from a specific study population and should not be treated as a personal prediction, but they illustrate why active monitoring after birth is essential.

Other short-term maternal complications can include pain, swelling, bruising, difficulty passing urine, urinary incontinence, wound infection, and the need for suturing in an operating room. The NHS also notes a higher chance of blood clots after assisted delivery, particularly when mobility is reduced or other risk factors are present. People who have an epidural, prolonged labor, high blood loss, or significant perineal trauma may need closer observation before discharge.

Pelvic floor and longer-term recovery risks

Recovery after assisted delivery is often more demanding than after an uncomplicated spontaneous vaginal birth. Perineal trauma can make sitting, walking, feeding, toileting, and sleep more difficult in the first days. Swelling and bruising may be substantial, especially after forceps. Pain should gradually improve, but worsening pain, fever, offensive discharge, wound

breakdown, or increasing difficulty passing urine or stool should be discussed promptly with a healthcare professional.

Pelvic floor symptoms may include urinary leakage, urgency, a sensation of heaviness, painful intercourse, or difficulty controlling wind or stool. Obstetric anal sphincter injuries are particularly important because they may cause anal incontinence if not recognized and repaired appropriately. Anyone told they had a third- or fourth-degree tear should receive clear information about the repair, bowel care, pain control, pelvic floor physiotherapy, and follow-up.

Emotional recovery after assisted delivery also matters. Some parents feel grateful that the baby was born safely, while also feeling shocked, violated, disappointed, or frightened by how quickly events unfolded. These reactions can coexist. A birth debrief after assisted delivery can help explain why instruments were recommended, whether there were alternatives, and what the implications are for future births. Persistent intrusive memories, panic, low mood, or avoidance of postnatal care deserve compassionate professional support.

Risks for the baby

Many babies born by assisted delivery are well, but the instrument can leave temporary marks. Vacuum birth commonly causes a swelling on the scalp where the cup was placed, and forceps may leave facial marks or small bruises. Minor cuts can occur. These usually settle, but newborn staff should examine the baby carefully after birth and advise parents what is expected and what is not.

Cephalohaematoma is a collection of blood between the skull bone and its covering. It can happen after vacuum or forceps birth and may take weeks to resolve. Because the breakdown of the collected blood increases bilirubin load, cephalohaematoma can contribute to neonatal jaundice. The NHS lists cephalohaematoma, jaundice, and minor cuts as recognized baby risks after forceps or vacuum delivery.

A recent study on neonatal complications associated with assisted vaginal delivery reported an overall neonatal morbidity incidence of 38.5%, with neonatal jaundice the most frequent complication and reported at 29.86% in vacuum-assisted cases. Again, individual risk varies, but this supports the

need for bilirubin assessment when indicated, feeding support, and follow-up after discharge. More serious complications, such as subgaleal hemorrhage, skull fracture, intracranial bleeding, nerve injury, or seizures, are uncommon but clinically significant. Parents should seek urgent medical advice if the baby is unusually sleepy, feeding poorly, very pale, has increasing scalp swelling, abnormal movements, breathing difficulty, or worsening jaundice.

Factors that can increase risk

Risk is shaped by the reason for assisted delivery and by the birth circumstances. Predisposing factors identified in the maternal study included prolonged second stage of labor, fetal distress, large fetal size, and elevated maternal weight. These factors can make the birth technically more difficult and may already increase the likelihood of bleeding, trauma, or neonatal compromise before instruments are used.

Fetal position is also important. An occiput posterior or transverse position, asynclitism, or a head that is not well flexed can make traction less straightforward. A higher station, meaning the head is not very low, increases the chance that assisted delivery will fail and an emergency cesarean will be needed. Sequential use of instruments, such as failed vacuum followed by forceps, can increase neonatal risk and is generally approached with caution.

Gestational age matters. Vacuum extraction is usually avoided at earlier gestations because the preterm scalp and blood vessels are more vulnerable. Suspected bleeding disorders in the baby, certain fetal bone conditions, or an unknown head position may also change the risk-benefit balance. For the mother, previous pelvic floor injury, current anticoagulant use, infection, exhaustion, or a very prolonged labor can influence the plan. These are reasons to ask the team to explain why assisted vaginal delivery is recommended over continued pushing or cesarean section.

Consent, alternatives, and what to ask

Informed consent can be challenging when the baby needs to be born quickly, but clear communication remains important. The clinician should explain the indication, the proposed instrument, expected benefits, main risks, and what will happen if the attempt does not succeed. In urgent situations, the

explanation may be brief, but parents can still ask focused questions when time allows.

Useful questions include: Why is birth needed now? Is the baby low enough for assisted vaginal delivery? Which instrument do you recommend and why? What are the chances of needing a cesarean if this does not work? Will an episiotomy be recommended? Who will repair any tear, and what follow-up will be arranged? These questions are not about delaying necessary care; they are about understanding the safest route in the moment.

Alternatives may include continuing to push, changing position, treating contractions, or moving to cesarean section. Each option has its own risk profile. For example, cesarean at full dilation can be more complex than a planned cesarean because the baby's head may be deeply engaged. Conversely, an attempted instrumental birth that fails can expose the mother and baby to both instrumental and surgical risks. Shared decision-making means weighing these realities with the clinical team, not seeking a risk-free option that may not exist.

Aftercare and follow-up after an assisted birth

Good aftercare reduces the chance that complications are missed. Before discharge, the birthing parent should know what type of tear occurred, whether an episiotomy was performed, how much bleeding happened, and whether there were any concerns about the baby's scalp, feeding, or bilirubin. Written information is helpful because labor and the immediate postnatal period can be overwhelming.

Maternal follow-up may include wound review, anemia assessment if blood loss was significant, pelvic floor physiotherapy, bladder or bowel symptom screening, and contraception or future birth planning. Pain should be controlled enough to allow movement, feeding, and toileting. Constipation prevention is especially important after significant perineal repair, but medication choices should be discussed with a clinician or midwife.

For the baby, parents should be told what scalp findings are expected and when jaundice checks are needed. Feeding frequency, wet and dirty nappies, alertness, and skin or eye yellowing are practical markers to monitor. If the birth involved difficult traction, failed vacuum attempts, marked bruising, or

cephalohaematoma, clinicians may recommend additional observation. Families should never hesitate to contact maternity triage, a midwife, pediatric service, or emergency care if something feels wrong.