

When vacuum or forceps are used



What assisted vaginal birth means

Vacuum and forceps are used to assist a vaginal birth in the second stage of labor, after the cervix is fully dilated and the baby has descended into the pelvis. The clinician applies traction in coordination with contractions and, when possible, maternal pushing. The aim is not to pull a baby out independently of labor, but to add controlled assistance when birth is close and a vaginal delivery is judged to be safer or more appropriate than waiting longer or moving directly to cesarean birth.

In vacuum-assisted delivery, a suction cup is placed on the baby's scalp at a specific flexion point to help guide the head. In forceps-assisted delivery, two curved blades are placed around the baby's head to cradle and guide it. Both require detailed knowledge of fetal head position and station. They are usually performed in a delivery room or operating room setting, depending on urgency, local policy, and the likelihood that cesarean birth may still be needed.

Assisted vaginal birth is most often considered when the baby's head is low enough for the procedure to be technically feasible. If the head is too high, the position is uncertain, or birth is not expected to occur with a small

number of pulls, cesarean birth may be the safer option. The decision is individualized and should involve the birthing person whenever the situation allows.

The main reasons vacuum or forceps are used

The common indications are prolonged second stage of labor, concern about fetal wellbeing, and maternal reasons to shorten pushing. A prolonged second stage means that pushing has continued longer than expected without adequate descent or rotation. The definition varies by parity, use of epidural analgesia, fetal position, and local guideline, but the clinical question is practical: is the baby continuing to descend safely, and is further waiting likely to help?

A nonreassuring fetal heart rate pattern is another major reason. If monitoring suggests that the baby may not be tolerating labor well, and the head is low enough, assisted vaginal birth may achieve delivery faster than arranging and performing a cesarean. This is especially relevant when birth is imminent but an extra assist is needed to complete it.

Maternal exhaustion during pushing can also lead to assisted birth. Exhaustion is not a character flaw or failure; it can reflect long labor, pain, sleep deprivation, infection, epidural effects, or the mechanical challenge of fetal position. Clinicians may also recommend shortening the second stage for maternal medical conditions where sustained Valsalva pushing may be undesirable, such as selected cardiac, neurological, or severe hypertensive conditions. In these situations, the goal is to reduce physiologic strain while still supporting vaginal birth if criteria are met.

Sometimes assisted delivery is used for a combination of factors: slow descent plus rising fetal concern, or a mother who is exhausted while the baby is very low. The indication should be stated clearly, because it shapes urgency, choice of instrument, location, and the threshold for stopping.

Clinical checks before proceeding

Because vacuum and forceps can cause harm if used in the wrong circumstances, clinicians confirm several prerequisites before starting. The cervix should be fully dilated, membranes ruptured, and the baby's head engaged and low enough

for an assisted vaginal birth. The exact position of the fetal head must be known; applying traction when position is uncertain increases the risk of failed delivery and injury.

The clinician also assesses whether the pelvis appears adequate for vaginal birth and whether there is suspected disproportion between the fetal head and maternal pelvis. The bladder is usually emptied to reduce injury risk and improve space. Adequate analgesia is important, particularly for forceps or when significant manipulation is needed. Continuous fetal monitoring is commonly used, and neonatal support should be available if fetal compromise is suspected.

Consent matters. In an emergency, the discussion may be brief, but it should still cover why assistance is recommended, which instrument is planned, the likely benefits, the main risks, and what will happen if the attempt does not work. A plan for immediate cesarean birth should be available when the attempt is performed in circumstances where failure is possible. Good practice also includes documenting the indication, station, position, instrument, number of pulls or cup detachments, and maternal and newborn outcomes.

These checks are not formalities. They are the safeguards that distinguish a well-planned operative vaginal birth from an unsafe attempt. If any key criterion is not met, the team may recommend cesarean birth instead.

How clinicians choose vacuum or forceps

The choice depends on the clinical situation, the baby's head position, gestational age, urgency, maternal tissue considerations, and the clinician's training. Vacuum is often used when the fetal head is low and flexed, and when gradual traction with maternal pushing is appropriate. It generally causes less maternal soft tissue trauma than forceps, but it is more associated with newborn scalp effects such as chignon, bruising, cephalohematoma, and, rarely, more serious bleeding.

Forceps may be preferred when more precise control of the fetal head is needed, when rotation is required, when the birth must be expedited more urgently, or when vacuum is unsuitable. Forceps can be effective even when maternal pushing is limited, which may matter for some medical conditions. However, forceps are

associated with higher rates of maternal perineal trauma, including third- or fourth-degree tears, especially if used without careful technique and appropriate support.

Gestational age is important. Vacuum is generally avoided in very preterm births because the fetal scalp and intracranial structures are more vulnerable. Vacuum may also be avoided if there is suspected fetal bleeding disorder, bone fragility, or certain fetal scalp conditions. Forceps may be considered in some cases where vacuum is contraindicated, but only if all other safety criteria are satisfied.

The best instrument is not simply the one that sounds less frightening. It is the one most likely to complete the birth safely in that specific clinical moment. Clinician competence is central: an instrument should be used only by, or under the direct supervision of, someone trained in that procedure.

When an assisted attempt should be avoided or stopped

Vacuum or forceps should not be used when the cervix is not fully dilated, the fetal head is unengaged or too high, the fetal position is unknown, or there is clear suspicion that the baby cannot fit through the pelvis. They are also inappropriate if the operator lacks the required skill or if emergency backup is not available in a situation where failure would create delay.

Vacuum extraction has specific stopping rules. The attempt should be abandoned if there is no descent with appropriate traction, if the cup repeatedly detaches, if the recommended limits on pulls or application time are reached, or if the clinician judges that continuing would increase risk without a realistic chance of success. Sequential use of vacuum and forceps can increase trauma risk and is generally approached with great caution, reserved only for exceptional circumstances by experienced clinicians.

Forceps attempts should also be stopped if the blades cannot be applied correctly, if the handles do not approximate as expected, if traction does not produce descent, or if the planned birth is not achieved promptly. Persisting with a difficult attempt can increase maternal and newborn injury. A decision to move to cesarean birth is not a failure; it is part of the safety plan.

Parents may notice that the room becomes more focused and that more staff enter. This can be unsettling, but it often reflects preparation: neonatal assessment, anesthesia support, additional obstetric help, or readiness for transfer to theatre. Asking, "What is the reason for using the instrument, and what is the backup plan?" is reasonable whenever time permits.

What the birth and recovery may involve

Before the procedure, the birthing person may be positioned with legs supported, the bladder emptied, and pain relief checked. The clinician may perform an episiotomy if they believe it is needed to reduce uncontrolled tearing or facilitate birth, especially with forceps; practice varies and should be individualized. Traction is usually applied during contractions. With vacuum, the cup may leave a temporary swelling on the baby's scalp. With forceps, there may be temporary marks on the baby's face or head.

After birth, the team checks the baby for scalp swelling, bruising, facial marks, nerve weakness, jaundice risk, and signs of more serious complications. Most superficial marks improve over days, but increasing scalp swelling, pallor, poor feeding, lethargy, abnormal breathing, or seizures require urgent medical assessment. The birthing person is examined for vaginal, cervical, and perineal trauma, blood loss, pain control needs, and bladder function.

Postpartum recovery after assisted birth can include more perineal pain, swelling, difficulty sitting, urinary symptoms, constipation, or emotional distress about how quickly events unfolded. These deserve care, not minimization. Follow-up may include wound review, pelvic floor physiotherapy, screening for anal sphincter injury symptoms, and a birth debrief after assisted delivery to explain what happened and why.

Future birth planning depends on the reason assistance was needed, the type of injury if any, fetal position, birthweight, and the person's preferences. Many people have later uncomplicated vaginal births, while others may be advised to discuss planned cesarean or specific intrapartum precautions. The right plan is made with an obstetric professional who can review the full record.