Holding breath vs breathing during pushing

What happens during the second stage of labor

The second stage of labor begins when the cervix is fully dilated and ends with the birth of the baby. During this time, uterine contractions continue to generate downward force, while the fetus descends, rotates, and extends through the pelvis and soft tissues. The birthing person may feel an involuntary urge to bear down, especially when the fetal head presses against the pelvic floor and rectum. This phase is often described as pushing stage and delivery, but it is not a single uniform event; it may include laboring down, active pushing, crowning, and controlled birth of the head.

Breathing matters because pushing is not only a voluntary muscular action. It interacts with diaphragm movement, abdominal wall recruitment, pelvic floor lengthening, intrathoracic pressure, venous return, maternal oxygenation, fetal oxygen transfer, and pain modulation. The glottis, the opening between the vocal cords, is central to the distinction. When the glottis is closed, air is trapped and pressure builds. When it remains open, effort occurs while air escapes through breathing or sound.

In practice, many people use a mixture of techniques. A contraction may begin with a breath, include several short pushes, and end with recovery breathing.

Some pushes are spontaneous and noisy; others are coached. The goal is not to perform an idealized script, but to match the technique to the physiology of the moment, maternal comfort, fetal status, and the clinical team's assessment.

Closed-glottis pushing: holding the breath

Closed-glottis pushing is commonly associated with the Valsalva maneuver. The birthing person takes a deep breath, holds it, tucks the chin, curls around the uterus, and bears down strongly, often while a support person or clinician counts for several seconds. WebMD describes this as one recognized delivery breathing method: inhale, hold the breath while pushing, then release the breath slowly before repeating as needed.

The physiologic advantage is force generation. Closing the glottis stabilizes the trunk and increases intra-abdominal pressure, which can intensify downward force during a contraction. In some settings, especially when maternal sensation is reduced by regional anesthesia or when a coordinated effort is needed, this technique may help a person understand where and how to direct muscular effort.

However, prolonged breath-holding has important limitations. Sustained Valsalva pushing can increase intrathoracic pressure, reduce venous return, and contribute to rapid fatigue. It may also cause facial and neck tension, make the pelvic floor less able to soften, and reduce opportunities for oxygen exchange during a contraction. For some people it feels empowering; for others it feels panicky, disorienting, or counterproductive.

A key concern is duration. Childbirth educators and physiologic birth advocates increasingly discourage routine ten-second breath-holds repeated several times per contraction when there is no urgent need. Lamaze International notes that holding the breath and sustaining a pushing effort for ten seconds with a closed glottis is less optimal than shorter pushing efforts with an open glottis, particularly when considering pelvic floor protection.

Open-glottis pushing: breathing, exhaling, and vocalizing

Open-glottis pushing means the airway remains open during bearing down. The person may exhale slowly, make a low sound, grunt, sigh, blow, or breathe out

through relaxed lips. The pushing effort is still real; it is not passive. The difference is that the body is not sealed under a sustained breath-hold. This is often called breathing during pushing, open-glottis pushing, or spontaneous pushing.

Open-glottis effort usually produces shorter pushes, often around five to seven seconds, with recovery breaths between efforts. It may be paired with phrases such as "breathe the baby down," although that wording can be misleading if taken literally. The uterus is still the primary engine, and the abdominal muscles still contribute. Breathing simply helps avoid excessive bracing and may allow the pelvic floor to yield more gradually.

Low vocalization is one practical form of open-glottis pushing. A low moan, hum, or grunt tends to keep the throat open and the jaw less clenched. In many bodywork and childbirth education models, relaxation of the jaw and throat is used as a cue for softening the pelvic outlet. This is not a rigid anatomical rule, but it is a useful clinical observation: when the upper body is less tense, pushing often becomes more coordinated and sustainable.

Blowing can be especially useful at crowning, when the fetal head stretches the perineum and the urge to push may be overwhelming. Short, controlled exhalations can help slow rapid expulsion and give tissues time to stretch. In an NCBI-indexed clinical study comparing breath-holding pushing with blowing while pushing, blowing was associated with significantly less perineal damage. This supports the idea that controlled exhalation is not merely a comfort technique; it may influence tissue outcomes.

Perineal and pelvic floor considerations

The perineum and pelvic floor undergo substantial distension during vaginal birth. Tissue response depends on parity, fetal size and position, speed of descent, maternal position, prior scars, connective tissue characteristics, use of instruments, episiotomy practices, and clinician support techniques. Breathing is only one variable, but it is a modifiable one.

Prolonged closed-glottis pushing can concentrate force into a shorter time window. When the fetal head emerges quickly, the perineum may have less time for viscoelastic stretch. This is one reason many teams encourage panting,

blowing, or small pushes during crowning. Lamaze International highlights three related strategies: keeping the glottis open, vocalizing, and controlling the crowning phase. The emphasis is not on withholding birth, but on guiding the final moments so the tissues are not overwhelmed by sudden pressure.

Open-glottis pushing may also reduce unnecessary pelvic floor co-contraction. Some people inadvertently tighten the buttocks, thighs, jaw, and pelvic floor while trying to push harder. Exhalation and low sound can help redirect effort from global bracing toward downward abdominal pressure with pelvic release. This distinction is clinically relevant for pelvic floor injury prevention, although no breathing method can guarantee avoidance of tears.

For medically literate readers, it may be helpful to frame the issue as pressure management. Birth requires pressure, but pressure can be distributed in more or less coordinated ways. A closed system may create a high-pressure spike; an open system may create repeated waves of effort with better respiratory recovery. In low-risk circumstances with reassuring fetal status, the latter is often preferred for maternal stamina and perineal protection.

Maternal oxygenation, fetal monitoring, and fatigue

During each contraction, uteroplacental blood flow is transiently reduced by myometrial compression. Most fetuses tolerate this normal physiology well, especially when contractions are appropriately spaced and maternal oxygenation is adequate. Breath-holding does not automatically harm the fetus, but prolonged, repeated Valsalva efforts may reduce maternal oxygen exchange and venous return during an already demanding phase.

Open-glottis pushing gives the birthing person more frequent opportunities to inhale, exhale, and reset. This can be valuable during a long second stage, when exhaustion may become a major clinical issue. Recovery breathing between pushes also helps reduce dizziness, panic, and breath stacking, which can happen when someone takes repeated deep breaths without fully exhaling.

Fetal heart rate monitoring may influence recommendations. If the tracing is reassuring, the team may support spontaneous pushing, rest between contractions, position changes, and gentle breathing. If there are recurrent decelerations, prolonged bradycardia, or another concerning pattern, clinicians

may ask for more directed pushing or recommend expedited birth. In that situation, the immediate safety context may outweigh general preferences about breathing style.

It is also important to consider maternal medical conditions. People with certain cardiovascular, cerebrovascular, pulmonary, ophthalmologic, or hypertensive conditions may need individualized guidance about Valsalva maneuvers. Conversely, some people may need coached pushing because sensation is limited, fatigue is severe, or descent has slowed. These decisions should be made with the obstetric or midwifery team, not from a general article alone.

How epidural analgesia changes pushing and breathing

Regional anesthesia in labor can change the sensory feedback that usually guides pushing. With a dense epidural, the urge to bear down may be reduced or absent, and the person may not easily perceive whether effort is moving the baby. In this setting, clinicians sometimes use directed pushing, including breath-holding, because it provides a clear, repeatable instruction.

Even with an epidural, open-glottis pushing can still be possible. Many people can use exhalation, low vocalization, or shorter pushes while receiving guidance about timing and direction. Laboring down, also called delayed pushing, may be offered when the cervix is fully dilated but the fetus is still high and maternal and fetal status are reassuring. This allows passive descent before active pushing begins, potentially reducing fatigue.

Position also matters. Semi-sitting, side-lying, hands-and-knees, supported squat, and upright positions change pelvic dimensions, sacral mobility, and how the fetus applies pressure to the pelvic floor. A person using epidural analgesia may have fewer position options depending on motor strength, blood pressure, monitoring needs, and institutional policy, but even small adjustments can improve comfort and pushing effectiveness.

A practical approach is to ask the team for feedback that does not force prolonged breath-holding. For example, a nurse or midwife can say whether a short exhale-push is effective, whether the baby descends during the contraction, and whether more rest is needed. This combines clinical observation with physiologic breathing rather than treating the two as

opposites.

Choosing a flexible strategy for birth

The most useful plan is flexible. Many people prefer open-glottis pushing as the default because it feels more instinctive, supports breathing, and may reduce perineal trauma. Still, birth is dynamic. There may be moments when a stronger breath-held push is requested, and there may be moments when the best instruction is to stop pushing, blow, pant, or let the uterus do the work.

Before labor, discuss preferences with the clinician and birth setting. Useful questions include whether spontaneous pushing is supported, how crowning is usually managed, whether perineal support is offered, and how pushing is coached with or without epidural analgesia. If avoiding routine prolonged Valsalva pushing is important to you, include that preference in the birth plan while acknowledging that fetal or maternal indications may change the plan.

During labor, the body may provide the clearest cues. If holding the breath feels powerful and brief, it may be tolerable. If it causes panic, dizziness, facial strain, or a sense of fighting the body, ask for another approach. If breathing during pushing feels too diffuse, ask for concrete coaching such as "push while breathing out," "make a low sound," or "short push, then breathe."

A simple sequence is often effective: take a settling breath as the contraction begins, follow the urge to bear down while exhaling or vocalizing, pause for an inhale, push again if the contraction continues, then use recovery breathing after it fades. At crowning, switch to small breaths, blowing, or gentle grunts as directed. This style respects both physiology and clinical safety: it keeps the glottis open when possible, preserves oxygenation, and allows the birth team to guide the pace of emergence.