

Shoulder Dystocia

Birth emergency — baby's head comes out, but the front shoulder gets stuck behind the mother's pubic bone.

THE STORY IN ONE SENTENCE

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“Baby's shoulder jams under the pubic bone — use HELPERR steps, never push on the belly, document every minute.”

Normal anatomy — the body's job

In a normal vaginal birth, after the baby's head comes out, the front shoulder (called the anterior shoulder) slides underneath the mother's pubic bone — the hard, curved bone at the front of the pelvis — and then the back shoulder (posterior shoulder) follows, letting the rest of the body be born smoothly.

BODY'S JOB

The mother's pelvis is shaped like a bowl with a bony ring, and the pubic bone is the front part of that ring. During birth, the baby must rotate and flex to fit through the narrowest parts. Once the head is out, the shoulders need to turn sideways (one shoulder toward the mother's belly, one toward her back) to slip through the space between the pubic bone in front and the tailbone in back. The front shoulder dips under the pubic bone first, making room for the back shoulder to clear, and then the rest of the baby follows in one smooth motion. This whole process is called the delivery of the shoulders, and it usually happens within one or two pushes after the head is born.

1. The baby's head is born first, rotating to face the mother's thigh.
2. The shoulders are now turned sideways inside the pelvis — one shoulder points toward the mother's belly (anterior), and one points toward her back (posterior).
3. With the next push, the front shoulder slides under the pubic bone, making a pivot point.
4. The back shoulder clears the tailbone, and the body follows in one smooth sweep.
5. The umbilical cord stays loose and blood flow continues until the baby is fully born.

What breaks

In shoulder dystocia, the front shoulder gets wedged behind the mother's pubic bone instead of sliding under it. The baby's head is out, but the shoulder is too wide or in the wrong position to fit through the space, so it jams against the bone like a box stuck in a doorway. The umbilical cord is now squeezed between the baby's body and the mother's pelvis, cutting off oxygen, and time becomes critical.

CLINICAL TERM

Impaction of the fetal anterior shoulder against the maternal symphysis pubis after delivery of the head, preventing delivery of the body.

How the body compensates

There is no true physiologic compensation in shoulder dystocia — the mechanical jam does not resolve on its own. The mother's body cannot push harder to free the shoulder, and pulling on the baby's head can cause permanent nerve injury (brachial plexus injury, which paralyzes the arm) or break the collarbone. The only effective response is for the delivery team to perform specific maneuvers (HELPERR protocol) to change the angles and free the stuck shoulder before the baby suffers oxygen deprivation.

1. The moment the head retracts against the perineum (turtle sign) or gentle traction does not deliver the shoulder, the team calls for help — extra nurses, an obstetrician, anesthesia, and a pediatrician — because this is a code-level emergency.
2. The team does NOT push on the mother's belly (fundal pressure) — this drives the shoulder harder into the bone and can rupture the uterus or injure the baby.
3. First maneuver: McRoberts position — two people lift the mother's legs up and out toward her chest, flattening the curve of her lower spine and rotating the pelvis upward; this increases the space behind the pubic bone and frees the shoulder in about 40% of cases.
4. Second maneuver: suprapubic pressure — one person pushes down and to the side just above the pubic bone (not on the belly) to push the baby's front shoulder away from the bone, like nudging a stuck drawer.
5. If those fail, the team tries the Rubin maneuver (reaching inside to push the baby's shoulder toward the chest to make it narrower) or the Woods corkscrew (rotating the baby to bring the back shoulder forward and the front shoulder out from behind the bone).
6. If rotation fails, the team removes the posterior arm — reaching in, finding the baby's back arm, sweeping it across the chest, and delivering it first, which makes more room for the front shoulder to come out.

7. Last resort: the mother is moved to hands-and-knees position (Gaskin maneuver), which changes the pelvic angles and uses gravity to help free the shoulder.
8. Every step is timed and documented because after 4 to 5 minutes without oxygen, the baby's risk of permanent brain injury (hypoxic-blood-starved (ischemic) encephalopathy) or death rises sharply.

Domino effect

1. The baby's head is delivered, but the body does not follow with the next push. — Normally the shoulders rotate and slide out right after the head, but in shoulder dystocia the front shoulder is jammed against the pubic bone, creating a mechanical block that stops all forward progress.
2. The baby's head retracts tightly against the mother's perineum (turtle sign). — Because the shoulder cannot move forward, gentle pulling on the head just pulls the stuck shoulder harder into the bone, and the head snaps back like a turtle pulling into its shell — this is the key visual sign that tells the team this is shoulder dystocia, not just a slow delivery.
3. The umbilical cord is compressed between the baby's body and the mother's pelvis. — The cord, which was loose and pulsing while the baby was fully inside, is now pinched in the narrow space where the shoulder is wedged — blood flow stops, oxygen stops, and the baby's heart rate starts to drop (fetal a slow heart rate (bradycardia)).
4. The clock starts: the team has 4 to 5 minutes to free the shoulder before brain damage begins. — The baby's brain uses oxygen faster than any other organ, and once the cord is compressed, the baby is not breathing yet (because the chest is still inside), so there is no backup — brain cells start dying after about 4 minutes without oxygen, leading to oxygen-starved (hypoxic)-blood-starved (ischemic) encephalopathy (permanent brain injury) or death.
5. Routine pulling or pushing makes things worse, not better. — Pulling hard on the head stretches the brachial plexus (the bundle of nerves that runs from the neck into the arm), causing Erb's palsy (permanent arm paralysis), and pushing on the belly (fundal pressure) drives the shoulder even tighter into the bone, increasing the chance of uterine rupture and making the jam worse.
6. The HELPER maneuvers change the geometry of the pelvis and the baby's position to unlock the jam. — Each maneuver works by either increasing the space behind the pubic bone (McRoberts, hands-and-knees), pushing the shoulder away from the bone (suprapubic pressure), rotating the baby to bring a different shoulder forward (Rubin, Woods), or reducing the width of the shoulders by delivering one arm first (posterior arm removal) — these are the only proven ways to free the baby safely and fast.

7. If the maneuvers succeed, the baby is delivered and assessed immediately for breathing, heart rate, and arm movement. — Even with successful delivery, the baby may have low Apgar scores from the oxygen deprivation, may need resuscitation, and may have a brachial plexus injury (weak or floppy arm) or a fractured clavicle (collarbone) from the maneuvers — the pediatric team checks and treats these right away.
8. The mother is checked for tears, bleeding, and uterine rupture after delivery. — The maneuvers can cause fourth-degree perineal tears (tearing all the way through the rectum), postpartum bleeding (hemorrhage) from uterine atony (the uterus does not clamp down after the stress), or, rarely, uterine rupture if someone pushed on the belly — all of these need immediate treatment to prevent life-threatening bleeding.

Symptoms · what the patient feels, and why

- The baby's head comes out but the shoulders stay stuck inside: The front shoulder is jammed behind the mother's pubic bone (the hard bone at the front of the pelvis). The baby is too big or positioned in a way that the shoulder can't slip under the bone on its own.
- Turtle sign — the baby's head pops out then pulls back tight against the mother's body: The stuck shoulder yanks the head backward against the perineum (the tissue between the vagina and anus). It looks like a turtle pulling its head into its shell.
- The usual gentle downward pull on the baby's head does not bring the shoulders out: Normal delivery uses light traction (pulling) to guide the front shoulder under the pubic bone. When the shoulder is truly wedged, that gentle pull fails because bone is blocking bone.
- The delivery stops after the head is born — the body does not follow within about one minute: Normally the shoulders rotate and slide out right after the head with one or two pushes. A trapped shoulder halts all forward movement despite pushing and normal traction.
- The care team activates the shoulder-dystocia emergency protocol and calls for extra help: Shoulder dystocia is a time-critical emergency. The umbilical cord is compressed between the baby and the mother's pelvis, so the baby is not getting oxygen. Every minute counts, and standard maneuvers require extra hands.
- The baby may have a slower heart rate or poor color after birth: Cord compression cuts off oxygen (hypoxia) during the minutes the shoulders are stuck. The baby's heart slows and skin may look pale or dusky until the body is delivered and the baby can be resuscitated.
- The mother's perineum may tear more than usual: Extra maneuvers to free the shoulder — such as pressing hard above the pubic bone or rotating the baby inside — stretch and sometimes rip the vaginal and perineal tissues.

- After delivery, the baby's arm on the stuck-shoulder side may hang limp: The brachial plexus (the bundle of nerves that runs from the neck into the arm) can be stretched or torn when the shoulder is wedged and then freed. This causes weakness or paralysis in that arm.

Focused exam

- Turtle sign — the baby's head pulls back into the perineum right after it comes out: This is the first clue that shoulder dystocia has happened. The head delivered, but the front shoulder is wedged under the mother's pubic bone (the hard arch of bone at the front of the pelvis), so the head retracts like a turtle pulling into its shell. This tells you to stop normal delivery moves and start rescue maneuvers immediately.
- Gentle downward traction on the head does not deliver the shoulder: In shoulder dystocia, the front shoulder is stuck behind the mother's pubic bone. Pulling harder on the head will not unstick it and will stretch and tear the brachial plexus (the bundle of nerves in the baby's neck that control the arm), causing permanent nerve injury. This tells you the problem is mechanical — the baby is too big or the angle is wrong for the space.
- Umbilical cord is visible and turning blue, pale, or dusky: The longer the shoulder stays stuck, the longer the cord is compressed between the baby's body and the mother's pelvis, so blood cannot flow to the baby's brain. This is how shoulder dystocia causes brain damage or death. Time is the enemy — brain injury starts within 4 to 5 minutes without oxygen.
- Baby's face is dusky, purple, or gray within 30 seconds of head delivery: The baby's lungs have not taken the first breath yet because the chest is still inside, and the placenta is not delivering oxygen anymore because the cord is kinked or compressed. Without oxygen from either source, brain cells start to die within minutes.
- Large baby on exam or history of mother with diabetes or pregnancy past 40 weeks: This is the upstream break. Big babies (especially over 4000 or 4500 grams) get stuck more often because their shoulders are wider than the pelvis can accommodate. Knowing this risk ahead of time helps you call for help faster when turtle sign appears and prepares you to act.
- Mother cannot push the baby out with her next contraction or normal effort: In shoulder dystocia, the baby's body is mechanically stuck — pushing will not help and wastes precious seconds. This tells you to switch from normal labor moves to rescue maneuvers like leg positioning, suprapubic pressure, and internal rotation.

Diagnostics · every test answers a question

- Cord arterial blood gas at delivery (umbilical artery pH and base excess) → Did the baby get enough oxygen during the stuck time, or did the brain start running out of fuel?

- Apgar score at 1 and 5 minutes → How well is the baby breathing, moving, and responding right after birth?
- Brachial plexus exam — check baby's arm movement, grasp reflex, and Moro reflex (startle reflex) → Did the stuck shoulder or traction on the head damage the nerves that control the baby's arm?
- Clavicle (collarbone) exam and X-ray if arm movement is abnormal or a crackling feel or sound (crepitus) (crackling) is felt → Did the shoulder get stuck so hard that the collarbone broke, or was it broken on purpose to free the shoulder?
- Estimated fetal weight by ultrasound before delivery (if available) → Is the baby big enough that shoulder dystocia is more likely to happen?
- Maternal glucose control review (HbA1c or glucose logs) if diabetes is present → Was the mother's blood sugar high enough during pregnancy to grow an extra-large baby with wide shoulders?

Treatment logic

- Call for help immediately — obstetrics attending, pediatrics or neonatology, anesthesia, and extra nurses → Gets the full team to the bedside so multiple people can do rescue maneuvers at the same time, someone can prepare to resuscitate the baby the instant it delivers, and anesthesia is ready if emergency surgery is needed. Every second counts because the baby's umbilical cord is being squeezed and oxygen is dropping.
- McRoberts maneuver — flex the mother's hips and pull her knees up toward her chest as far as they will go → Opens up the pelvic space by tilting the mother's pelvis backward (rotating the pubic bone upward and the sacrum downward), which gives the front shoulder room to slide under the pubic bone. This works in about 40% of cases by itself.
- Suprapubic pressure — push firmly above the mother's pubic bone (not on the belly) toward her spine, in a downward and lateral direction → Rotates the baby's front shoulder backward and downward, pushing it off the pubic bone and into the wider diagonal space of the pelvis so it can slip through. This is done at the same time as McRoberts and works in another 40% of cases when added to McRoberts.
- Deliver the posterior (back) arm — reach inside the birth canal, find the baby's back arm, sweep it across the chest, and pull it out → Removes one shoulder from the equation, shrinking the total width of the baby's body so the stuck front shoulder now has enough room to fit through the pelvis. This works in most remaining cases.
- Rubin or Woods screw maneuver — reach inside and push on the baby's shoulder or back to rotate the baby's body 180 degrees, like unscrewing a jar → Rotates the shoulders into the wider diagonal or side-to-side diameter of the pelvis, or turns the stuck front shoulder into the back position where there is more room, so the shoulder can slip past the pubic bone.

- Gaskin maneuver — help the mother roll onto her hands and knees (all-fours position) → Gravity and the change in pelvic tilt shift the pressure points and open up the back of the pelvis (the sacrum can move backward), giving the stuck shoulder a new path to escape. This works in many cases where other moves have failed.
- Last-resort maneuvers if all else fails — intentional clavicle fracture, Zavanelli maneuver (push the head back in and do emergency cesarean), or symphysiotomy (cut the pubic bone) → Intentional clavicle fracture shrinks the shoulder width so the baby can deliver. Zavanelli gets the baby out surgically when vaginal delivery is impossible. Symphysiotomy widens the pelvis by cutting the ligament between the two pubic bones, but this is almost never done in the U.S. because of high maternal injury risk.

Medications

Call for help ·

Use these moves: bend mom's legs high up, push above the pubic bone, turn the baby, deliver the back arm, mom gets on hands and knees. Last try: push head back and do surgery, break the breastbone, or break the collarbone. NO pushing on the belly. Get ready for bad bleeding and tears. Write down times, moves used, doctors, baby's health, and cord blood test. Each medicine on this list does a body job. Name the job before naming the drug. The medicine is the tool, the broken step is the target. Avoid the reflex of one-symptom-one-drug. Match each agent to big baby from diabetes or past due date, pelvis shape, which way baby faces and the patients individual physiology.

Red flags

- The baby is not breathing well or has a very slow heart rate after the body is finally delivered — this means oxygen was cut off too long and the baby needs immediate resuscitation.
- One of the baby's arms is completely limp or the hand stays curled and won't open — this suggests the nerves to that arm were injured during delivery.
- The mother has heavy bleeding that does not slow down after the placenta is out — the extra maneuvers and tissue tears can damage blood vessels or prevent the uterus from clamping down properly.
- The baby's collarbone feels or looks crooked, or the baby cries and won't move that arm — the clavicle (collarbone) may have broken during the maneuvers to free the shoulder.
- The mother reports sudden, severe pain in her pelvis or hip during or right after delivery — rarely, the pubic bone can separate or a pelvic joint can be injured by the forces used to deliver the baby.

Nursing priorities

1. Activate the shoulder dystocia emergency team immediately using overhead page or emergency button to bring obstetrics attending physician, pediatrics or neonatal team, anesthesia provider, and extra nurses to the bedside right now. — The baby's umbilical cord is compressed between the shoulder and the mother's pelvis, cutting off oxygen supply to the brain; permanent brain damage starts after 4 to 5 minutes without oxygen, so extra hands and expertise must arrive within 1 minute.
2. Help position the mother into McRoberts maneuver by flexing both of her hips and pulling her knees up toward her chest and out to the sides while she stays flat on her back. — This position rotates the mother's pelvis backward and flattens her lower spine, which straightens the birth canal and increases the space between her pubic bone and sacrum (tailbone) by up to 2 centimeters, allowing the stuck shoulder to slip under the pubic bone.
3. Apply steady suprapubic pressure by placing your hand just above the mother's pubic bone and pushing downward toward her spine at an angle, using the heel of your hand in a rocking or continuous motion. — This pressure pushes the baby's front shoulder down and inward toward the baby's chest (adduction means moving toward the midline), reducing the shoulder width by rotating the baby's shoulders from side-to-side position into a diagonal position that fits through the pelvis opening.
4. Document the exact time the baby's head delivered, every maneuver attempted, who performed each step, and the time each action occurred on the flowsheet or emergency record form. — Accurate timing shows whether the baby went without oxygen long enough to cause brain injury (medicolegal documentation protects the team), and tracking which maneuvers were used prevents repeating failed steps and guides the team through the protocol in the correct order.
5. Prepare neonatal resuscitation equipment including warmed radiant warmer, suction, bag-mask with correct size mask, oxygen source, and intubation supplies within arm's reach before the baby delivers. — Babies with shoulder dystocia often have low Apgar scores (number score rating baby's health at birth) and need immediate help breathing because they suffered low oxygen (hypoxia) (low oxygen) and too much acid in the blood (acidosis) (too much acid in the blood) from cord compression during the minutes the shoulder was stuck.
6. Watch for and report any traction (pulling) on the baby's head toward the floor or to the side, immediately speaking up if you see pulling, and remind the team that only gentle downward pressure during contractions is safe. — Excessive pulling or lateral traction stretches the brachial plexus (bundle of nerves running from the neck into the arm), causing Erb palsy (permanent arm weakness or paralysis) in 10 percent of shoulder dystocia cases; the mother's pushing and maneuvers should deliver the baby, not provider pulling.

7. Assess the mother for signs of postpartum bleeding (hemorrhage) by measuring blood loss, monitoring vital signs every 5 minutes for the first hour, and checking uterine firmness every 15 minutes. — Shoulder dystocia increases the risk of uterine atony (uterus stays soft and does not contract after birth) and postpartum bleeding (hemorrhage) because the prolonged delivery tires out the uterine muscle and internal maneuvers can tear the cervix, vagina, or uterus, causing life-threatening bleeding.
8. Examine and document the newborn for brachial plexus injury by checking whether both arms move equally, the baby can bend both elbows, and both hands can grasp, reporting any weakness or asymmetry to pediatrics immediately. — Brachial plexus injury from nerve stretching during shoulder dystocia may not be obvious at first but causes one arm to hang limp or a claw-hand position; early identification allows physical therapy referral (specialist movement treatment) and family education, because 80 to 90 percent heal within one year but some need nerve surgery.

Sources

- ACOG Practice Bulletin No. 178: Shoulder Dystocia, 2017 (reaffirmed 2023)
- American Academy of Family Physicians (AAFP) shoulder dystocia guidelines
- Royal College of Obstetricians and Gynaecologists (RCOG) Green-top Guideline No. 42, 2012

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