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Please wait while your request is being verified... What are the best exercises after a C-section? The best core exercises after a C-section prioritize safety and effectiveness. Pelvic tilts, glute bridge, modified plank and heel slides are excellent choices. Ensure you consult with your healthcare provider before starting any new exercise routine. After a C-section, people often wonder what exercises they can do to strengthen their core. Even if you get the go-ahead from a health care provider, returning to exercise after a C-section can be scary. But it's worth a try, says Laura Staton, a dancer-choreographer, prenatal yoga instructor, and co-author of Baby Om: Yoga for Mothers and Babies. That's because exercise can help your pelvic floor and core bounce back, and it lets you take control of your body. Read on for more information about getting back into exercise after a C-section with information about what exercises to avoid and what exercises to try. While the American College of Obstetricians and Gynecologists (ACOG) says it's OK to resume exercise within a few days after an uncomplicated vaginal birth, the same is not true for a cesarean (C-section) birth. Instead, they recommend getting the all-clear from a health care provider before beginning any exercise. A health care provider may give the green light anywhere from a few weeks to a couple of months post-C-section. "It's important when returning to an exercise plan that you consider the level of exercise being performed prior to pregnancy," says Pamela Promecene, M.D., professor and obstetrician with McGovern Medical School at UTHealth/UT Physicians in Houston. Even after your surgical incision is healed, you'll likely still not sleep through the night and have significant fatigue, which can affect exercise tolerance. That said, not all activities are good for post-C-section. For example, don't do anything strenuous, such as lifting heavy weights, for the first month of recovery, says David Colombo, M.D., director of maternal fetal medicine at Spectrum Health in Grand Rapids, Michigan. That includes running and resistance training. And since your core may still be sore, Dr. Promecene says to avoid direct ab exercises after a C-section for four to six weeks. Instead, stick to low-impact exercises like swimming, yoga, and jogging. Also, pushing a stroller is good for developing core strength, she adds. If you are feeling up to it, Dr. Colombo recommends walking and using a stationary bike to start a few weeks after a C-section. And as always, if you're looking to start exercising, always get the green light from a health care provider first, and ask them for workout recommendations. Looking for exercises for after C-section? After at least six weeks—and with the go-ahead from your doctor—you can try these moves, which strengthen your pelvic floor and abdomen. The bridge exercise after a C-section firms up tummy muscles. Plus, it strengthens the glutes and lower back, making it an excellent exercise for building back your core strength. How to do it: Lie on your back with your knees bent.Place your feet flat on the floor and place your legs hip-width apart.Slowly lift your butt and back off the floor.Return to the starting position. Do four to eight repetitions. Cobra is a yoga position that stretches the back. But it also strengthens the pelvis and lower abdomen. The standard cobra exercise begins in a plank, but after a C-section, you'll want to modify it so you don't strain your core too much. How to do it: Lie on your stomach with your palms flat next to your shoulders.Tuck your elbows into your rib cage.Lift your head and neck off the floor, but not so much that it strains your lower back.Suck in your navel as if you were trying to lift your pelvis off the floor.Return to the starting position. Do four to eight repetitions. Forward bends can help you regain control of your middle by working your abdominal muscles and back and strengthening your entire core. How to do it: Stand with your feet a few feet apart and your hands on your hips.Extend your arms over your head and bend forward at a 90-degree angle, keeping your back flat.Return to starting position. Do four to eight repetitions. Kegel exercises strengthen your pelvic floor. These muscles support your bowel, uterus, and bladder, which makes exercising them after a C-section particularly important. According to researchers, toned pelvic floor muscles help you control urinary and fecal incontinence and can make sex more pleasurable. How to do it: Locate your pelvic floor muscles by interrupting the flow of urine. (Note that this step is just to find the muscles; you will not perform the exercise while urinating,)Once you've identified your muscles, contract and release the muscles while you are not peeing. Repeat 25 to 50 times.When you've got the hang of it, contract and hold the contraction for a few seconds. Repeat 10 times. Leg slides tone your abs and leg muscles. It's a gentle yet effective way to target the muscles of your core. How to do it: Lie on your back with your knees bent, feet flat on the floor.Slide one leg until it's straight and flat on the floor.Return it to a bent position.Repeat with the other leg. Do it four to eight times with each leg. Thanks for your feedback! 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The license may not give you all of the permissions necessary for your intended use. For example, other rights such as publicity, privacy, or moral rights may limit how you use the material. Medically reviewed by Dr. Anna Targonskaya, Obstetrician and gynecologist Flo Fact-Checking Standards Every piece of content at Flo Health adheres to the highest editorial standards for language, style, and medical accuracy. To learn what we do to deliver the best health and lifestyle insights to you, check out our content review principles. Since the 1990s, rates of cesarean section deliveries have been steadily increasing around the world. In 2018, 21% of all births were delivered by C-section, according to data collected from 169 countries. In North America, more than 30% of all births are C-section deliveries. As common as cesarean sections have become, the procedure is still major surgery and should be regarded as such. Like all other major surgeries, it takes weeks for proper recovery and healing after a C-section. Exercise after C-section delivery usually needs to be postponed for longer than after a vaginal delivery. It's also important not to push yourself too hard after a C-section: doing so can elevate the risk of infection and other complications that can prolong your recovery. If you've had a C-section delivery, wait to jump into your post-pregnancy exercise regimen until at least six weeks postpartum, after you've visited your health care provider. Passing these two milestones before you begin exercising is vital to ensuring that your recovery goes smoothly. Even people who had smooth deliveries need to be careful about postnatal exercise. Childbirth and cesarean section deliveries are traumatic to the body, and overexertion can cause problems. If you want to get your body moving before your 4–6 week postnatal check-up, start with gentle, low-impact activity, like walking. Once your health care provider has given you the thumbs up for exercise after delivery, you can slowly ease yourself back into a regular workout routine over a few weeks or months. Postnatal exercise after a C-section may look very different from your pre-pregnancy exercise regimen, but that's perfectly okay. High-impact exercise, tummy-toning workouts, and full-blown cardio are definite no-no's for the first six weeks after a C-section delivery. Here are some things you can do as soon as you feel up to it:Walking — As soon as you can get up and move around, venture out of the house and around the block a few times. It'll probably feel great to get your body moving again.Pelvic floor exercises — You may have already been doing pelvic floor exercises throughout your pregnancy, and if you have, you know how important they are. As soon as the catheter is out, you can resume doing Kegel exercises to strengthen the pelvic floor muscles that support your bladder, bowel, and uterus.Practice good posture — Pregnancy, C-section, and breastfeeding can all contribute to bad posture. Practice sitting up with your back straight and your shoulders back. This will help you to strengthen your stomach muscles and support your back.Light stretches — Focus on stretching your neck, shoulders, arms, and legs with light stretches that don't put pressure on your C-section scar. Even after you've gotten the green light to exercise after C-section delivery, it's important to ease into abdominal exercises. Before you exercise to strengthen abdominal wall muscles, make sure you don't have a condition called diastasis recti, which is when there's a gap in the rectus abdominis muscles of more than 2.7 centimeters after pregnancy. A gap in the rectus abdominis muscles isn't considered dangerous, but it can create the appearance of pregnancy long after you have delivered. If you have diastasis recti, your health care provider may recommend modified workouts. If you're specifically looking for exercises to reduce your belly after delivery, focus on strength training exercises that engage the core but don't cause it to bulge out. Avoid doing crunches, sit-ups, and regular planks at first. These are some exercises you can do to strengthen abdominal muscles once your health care provider gives you the go-ahead: Pelvic tilts — This is one of the safest exercises to start with to strengthen the abdominal wall muscles after delivery. Lie on your back on a mat with your knees bent at a 90-degree angle and your feet firmly planted on the floor. Tilt your hips toward your upper body and engage your core as you raise your butt about an inch off the floor. You should be closing the gap between the curve of your lower back and the floor. Hold the position for a few seconds, then release. Repeat 10 times.Modified or full side plank — The side plank engages your inner core muscles. Start with a modified side plank with your knees bent on the mat as you lift your body into plank position on your side.Wall sit — This exercise works to strengthen the quadriceps, hamstrings, pelvic floor muscles, and lower back. Stand one or two feet away from a wall, with your back facing it. Lean against the wall and go into a sitting position with your knees bent at a 90-degree angle. Engage your stomach and pelvic floor muscles and the position for as long as you can. Repeat five times. Pelvic floor exercises after C-section delivery Some of the most important postnatal exercises you can do engage the pelvic floor muscles.Pregnancy puts a lot of strain and pressure on the pelvic floor muscles that support the bladder, bowels, and uterus. Additionally, during surgery, the bladder is moved to safely deliver the baby. This creates a lot of trauma for those organs and muscles, so it's important to focus on strengthening them. Try these pelvic floor exercises for after a C-section delivery: Kegel exercises — You can identify which muscles to engage by stopping urination midstream. The muscles that you use to do that are the same muscles that you contract to perform a Kegel. Contract and hold for five seconds, then release. Repeat 10 times. Do this a few times a day.Squats — To correctly perform a squat, stand with your feet slightly wider than shoulder-width apart. Bend your knees and squat down with your hips pushing back, like you're about to sit in a chair. Once your thighs are parallel to the ground, hold the position. Your weight should be in your heels. Straighten your legs and repeat 15–20 times.Bridge — The bridge is a great exercise for the gluteus and pelvic floor muscles. Start by lying on your back on an exercise mat, with your knees bent at a 90-degree angle and feet planted firmly on the floor. Push through your heels and raise your hips off the floor, squeezing your gluteus muscles and engaging your pelvic floor muscles. Your body should form a straight line from your shoulders to your knees. Hold for a few seconds, then release. Repeat 10–15 times, then rest for one minute and perform another set of 10–15. Pregnancy and delivery can put a lot of strain on your back. On top of all that, the pregnancy hormone relaxin causes relaxing, softening, and shifting of the ligaments in the lower back and pelvis in preparation for childbirth. Whether you delivered vaginally or not, your body is affected by this hormone. These are the best ways to protect and strengthen your lower back after pregnancy: Avoid lifting heavy objects and stay away from weighted exercises for a good while after delivery.Focus on strengthening the core and pelvic floor muscles to better support your back.Pay attention to your posture — sit straight with your shoulders back.Avoid sleeping on your back. Instead, lie on your side with a pillow between your knees to maintain a neutral position in your spine.The pelvic tilt exercise and the bridge exercise, both mentioned above, are ideal for strengthening the lower back without putting too much pressure on it. For another lower back exercise, do the lower-back twist. Lie on your back on a mat with your knees bent at a 90-degree angle, feet planted flat on the floor. Extend your arms out to your sides. Lower your knees to one side until they are stacked on the floor, making sure to keep your shoulders on the floor. Hold the position for 30 seconds, return to the starting position, and then repeat on the other side.   If you'd like to reduce the size of your belly after pregnancy, you'll need to do cardio, which is an essential component of any post-pregnancy exercise regimen. Start out with low-impact cardio workouts for the first four to six months after C-section delivery. Try these exercises: WalkingSwimmingWater aerobicsCyclingElliptical trainingAs your stamina and strength build up, slowly increase the intensity of your workouts. Compression garments are a good way to protect your C-section scar as it heals. They come in the form of tights, shorts, and corsets, and the pressure they supply supports the stomach muscles and lower back and increases blood flow as you heal from surgery. Compression garments are not meant to "hold you in" or make you look thinner. Their purpose is purely medical. Compression stockings are great to wear throughout pregnancy to prevent or slow the progression of varicose veins. Postnatal exercises are a crucial part of recovering after delivery. When done right, they help speed healing by supporting and strengthening your muscles and bones. Regular exercise also helps boost energy, so while it may be the last thing you feel like doing after caring for a baby all night and day, a brisk walk may be exactly what you need to feel refreshed and rebalanced. Your mental health will also benefit from postnatal exercise. Many new parents experience postpartum blues and postpartum depression. Exercise can combat those feelings by fighting off depression and promoting better sleep. Just make sure not to push yourself too much, as overexertion after C-section delivery can have serious consequences, including wound infection or injury. Your body needs a few months to heal before you reintroduce vigorous, high-impact activity and certain abdominal exercises. Avoid the following workouts for a few months after a C-section delivery:Abdominal-strengthening exercises that cause the stomach to bulge out, such as sit-ups and crunches, as well as ones that put a lot of stress on the abdominal wall, such as front planks, leg raises, and bicyclesExercises that involve jumping such as jumping rope, squat thrusts, jumping jacks, and plyometric exercisesSprinting or runningStrenuous exercise classes such as body sculpting, Zumba, kickboxing, etc.Any exercise that pulls at or puts pressure on your C-section scarAny exercise that causes painThis isn't the time to push through the pain. Focus on no-impact and low-impact workouts for the first few months following a C-section delivery, and if you're not sure if something is too intense, it's best to just avoid it. Postpartum exercise is important for your physical and mental health, but it's even more important to make sure that you're healing properly before beginning a post-pregnancy exercise regimen. If you're experiencing pain on or around your C-section scar while walking, make an appointment with your health care provider and hold off on exercising until after they say it's safe to start. I started using Flo app to track my period and ovulation because we wanted to have a baby. The Flo app helped me learn about my body and spot ovulation signs during our conception journey. I vividly remember the day that we switched Flo into Pregnancy Mode — it was such a special moment. Learn how the Flo app became an amazing cheerleader for us on our conception journey. Anique Anique is a real Flo member and was compensated for her time. Her experiences and opinions are her own. References Betrán, Ana Pilar, et al. "The Increasing Trend in Caesarean Section Rates: Global, Regional and National Estimates: 1990-2014." PloS One, Public Library of Science, 5 Feb. 2016, www.ncbi.nlm.nih.gov/pmc/articles/PMC4743929/."Stats of the States - Cesarean Delivery Rates." Centers for Disease Control and Prevention, Centers for Disease Control and Prevention, 28 Apr. 2020, www.cdc.gov/nchs/pressroom/sosmap/cesarean_births/cesareans.htm."Postpartum Exercise: How to Get Started." Mayo Clinic, Mayo Foundation for Medical Education and Research, 7 Aug. 2019, www.mayoclinic.org/healthy-lifestyle/labor-and-delivery/in-depth/exercise-after-pregnancy/art-20044596.Boerma, Ties, et al. "Global Epidemiology of Use of and Disparities in Caesarean Sections." The Lancet, vol. 392, no. 10155, 2018, pp. 1341–1348., doi:10.1016/s0140-6736(18)31928-7. Medically reviewed by Dr. Anna Targonskaya, Obstetrician and gynecologist Published (26 November 2018) Ab exercises after c section need to be safe. Learn how to exercise safely to regain core strength. It's important to wait until you have fully healed and have received clearance from your doctor before doing any abdominal exercises after a C-section. Typically, it takes about 6-8 weeks for the incision to heal and for the body to recover from the surgery. During this time, it's important to avoid any strenuous activity, including abdominal exercises. Once you have been cleared by your doctor, you can start with gentle exercises to strengthen your core and abdominal muscles. It's important to start slowly and gradually increase the intensity and duration of your workouts to avoid putting too much stress on your body. Some recommended exercises include pelvic tilts, gentle abdominal contractions, and Kegel exercises. As you progress, you can start incorporating more challenging ab exercises after c section such as planks, side planks, and abdominal crunches. However, it's important to listen to your body and stop if you experience any pain or discomfort. It's also important to keep in mind that every woman's recovery after a C-section is different, so it's important to consult with your doctor or a certified personal trainer to help you design an exercise plan that's tailored to your specific needs and fitness level. Toning your abs after a C-section can be a gradual process that requires patience and consistency. Start with gentle exercises: As mentioned earlier, it's important to wait until you have fully healed and received clearance from your doctor before doing any abdominal exercises. Once you have been cleared, start with gentle exercises like pelvic tilts, gentle abdominal contractions, and Kegel exercises to activate your core and start building strength. Engage in cardio exercises: Cardiovascular exercises, such as walking, running, cycling, or swimming, can help you burn calories and reduce body fat, which can help you achieve a leaner midsection. Aim for at least 150 minutes of moderate-intensity cardiovascular exercise per week. Incorporate core-strengthening exercises: Core-strengthening exercises like planks, side planks, and bird-dogs can help you strengthen your abdominal muscles and improve your posture. Start with a few reps and gradually increase the number of reps and sets as you get stronger. Focus on proper form: It's important to use proper form when doing any exercise to avoid injury and maximize the effectiveness of the exercise. Engage your core muscles during each exercise, and avoid exercises that place too much stress on your abdominal muscles, such as sit-ups and crunches. Maintain a healthy diet: Eating a healthy, balanced diet that's rich in lean protein, vegetables, fruits, and whole grains can help you achieve a leaner midsection by reducing body fat and providing the nutrients your body needs to build muscle. Remember, every woman's recovery after a C-section is different, so it's important to consult with your doctor or a certified personal trainer to help you design an exercise plan that's tailored to your specific needs and fitness level. Flattening your belly pooch after a C-section can be a gradual process that requires patience and consistency. Start with gentle exercises: As mentioned earlier, it's important to wait until you have fully healed and received clearance from your doctor before doing any abdominal exercises. Once you have been cleared, start with gentle exercises like pelvic tilts, gentle abdominal contractions, and Kegel exercises to activate your core and start building strength. Engage in cardio exercises: Cardiovascular exercises, such as walking, running, cycling, or swimming, can help you burn calories and reduce body fat, which can help you achieve a flatter midsection. Aim for at least 150 minutes of moderate-intensity cardiovascular exercise per week. Incorporate core-strengthening exercises: Core-strengthening exercises like planks, side planks, and bird-dogs can help you strengthen your abdominal muscles and improve your posture. Start with a few reps and gradually increase the number of reps and sets as you get stronger. Focus on proper form: It's important to use proper form when doing any exercise to avoid injury and maximize the effectiveness of the exercise. Engage your core muscles during each exercise, and avoid exercises that place too much stress on your abdominal muscles, such as sit-ups and crunches. Maintain a healthy diet: Eating a healthy, balanced diet that's rich in lean protein, vegetables, fruits, and whole grains can help you reduce body fat and provide the nutrients your body needs to build muscle. Avoid processed foods, sugary drinks, and excessive amounts of salt and sugar. Consider wearing a postpartum belly wrap: Wearing a postpartum belly wrap can help provide support to your abdominal muscles as they heal and may help reduce swelling and inflammation. Remember, every woman's recovery after a C-section is different, so it's important to consult with your doctor or a certified personal trainer to help you design an exercise plan that's tailored to your specific needs and fitness level. It is important to wait until you have fully healed and received clearance from your doctor before doing any abdominal exercises after a C-section. This is because the abdominal muscles and connective tissues need time to heal after surgery, and engaging in certain exercises too soon can cause further damage or delay the healing process. Generally, doctors recommend waiting at least 6-8 weeks after a C-section before starting any abdominal exercises. During this time, you can focus on gentle exercises that activate your core muscles, such as pelvic tilts, gentle abdominal contractions, and Kegel exercises. Once you have been cleared by your doctor, you can start incorporating more intense core-strengthening exercises like planks, side planks, and bird-dogs. However, it's important to start slowly and gradually increase the intensity and volume of your workouts to avoid injury. It's also important to listen to your body and stop any exercise that causes pain, discomfort, or unusual sensations in your abdominal area. Always consult with your doctor or a certified personal trainer before starting any new exercise program after a C-section. It is possible for your C-section pooch to go away with time and consistent effort. However, it is important to understand that every woman's recovery after a C-section is different, and some may take longer to see results than others. After a C-section, the abdominal muscles and connective tissues need time to heal, and the area may also be swollen and inflamed for several weeks or even months after surgery. Additionally, hormonal changes during and after pregnancy can also affect your body's ability to lose weight and reduce body fat. To help reduce your C-section pooch, you can focus on exercises that target the abdominal muscles and engage your core, such as planks, side planks, and bird-dogs, as well as cardiovascular exercises like walking, running, cycling, or swimming to help burn calories and reduce body fat. Additionally, maintaining a healthy diet and staying hydrated can also help reduce bloating and inflammation in the abdominal area. It's important to be patient and consistent with your efforts, as results may not be immediate. With time and effort, you can work towards a flatter midsection and feel confident in your body again. Planks can be a good exercise to help strengthen your core after a C-section, but it's important to wait until you have fully healed and received clearance from your doctor before doing any abdominal exercises. Generally, doctors recommend waiting at least 6-8 weeks after a C-section before starting any abdominal exercises. During this time, you can focus on gentle exercises that activate your core muscles, such as pelvic tilts, gentle abdominal contractions, and Kegel exercises. Once you have been cleared by your doctor, you can start incorporating more intense core-strengthening exercises like planks. However, it's important to start slowly and gradually increase the intensity and duration of your planks as you get stronger. To perform a plank after a C-section, start in a push-up position with your arms straight and your hands shoulder-width apart. Your body should form a straight line from your head to your heels. Engage your core muscles and hold the position for 10-30 seconds, or as long as you can maintain proper form without feeling pain or discomfort in your abdominal area. It's important to listen to your body and stop any exercise that causes pain, discomfort, or unusual sensations in your abdominal area. Always consult with your doctor or a certified personal trainer before starting any new exercise program after a C-section. If you enjoyed this information about ab exercises after c section and would like to keep it close to you at any time, just save this pin to your Pinterest Workout Board. Home › Workouts for Women ›Ab Exercises After C Section How can financial brands set themselves apart through visual storytelling? Our experts explain how.Learn MoreThe Motorsport Images Collections captures events from 1895 to today's most recent coverage.Discover The CollectionCurated, compelling, and worth your time. 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Those statistics may not be that interesting to you, but you can take heart in knowing there are a lot of other new moms out there who are struggling to get back their pre-C-section tummies. Just like moms who had vaginal births, C-section moms need to lose abdominal fat and tone the abdominal muscles to flatten their stomachs. However, they need to take more caution when returning to exercise because their stomach muscles are still healing. Moderate-intensity cardio and total-body strength training help burn fat and flatten your stomach after a C-section. Special C-Section Precautions According to Rajiv M. Mallipudi, M.D., women who have had C-sections should wait at least six weeks before returning to exercise. Just as with any soft-tissue injury, the abdominal muscles need time to heal from the trauma of delivery. Resuming exercise too soon could result in the incision opening or cause a muscle tear or hernia. Your obstetrician is the best person to tell you when it's time to resume activity and what type of activity is best for you. Dr. Mallipudi says that even when you begin exercising again, you should still avoid many traditional abdominal exercises and choose low-impact activities that don't place a lot of stress on the abs and pelvic floor. Your first priority when you are cleared for exercise is likely to burn that shelf of fat over your incision. Changes during pregnancy affect where fat is stored, as noted in a 2013 study in Nutrition & Diabetes. More of it accumulates in the abdominal area as a particular type of fat called visceral fat. That makes it all the more important to lose the belly bulge. Unlike subcutaneous fat, which sits just beneath your skin, visceral fat sits deep within your abdomen, surrounding your organs. It's been linked to serious health conditions such as heart disease and Type 2 diabetes, according to Harvard Health Publishing. The good news is that visceral fat responds to exercise and diet just like subcutaneous fat. In addition to a calorie-controlled diet, increasing your cardiovascular activity and building muscle will help you burn the belly fat. After six weeks of rest, you'll probably be raring to go. But don't lace up your running shoes right away. You'll still be healing, and should take it very easy in the beginning. Walking is your best bet for cardio exercise after a C-section, and it's a great reintroduction to activity after being sedentary. While it's not the best fat-burning exercise, it does still burn calories. Depending on how fast you walk and your weight, you can burn between 240 and 500 calories an hour, according to Harvard Health Publishing. So get out that baby stroller and get moving. Start out at a moderate pace on flat terrain; then increase your speed and add in a few hills. Walking up hills will help you burn even more calories and provide an effective toning workout for your legs and butt. Try to get in at least 30 minutes of walking each day as you feel up to it. According to the U.S. Department of Health and Human Services, all adults should get at least 150 minutes of moderate-intensity cardio exercise each week to improve their health and maintain a normal weight. But for even greater results, the Department of Health and Human Services suggests increasing the amount of cardio exercise to 300 minutes each week. That's a little less than 45 minutes of brisk walking each day. Of course, you should get your doctor's advice on how much exercise is right for you. The harder you exert yourself, the more calories you'll burn. Once you've been walking for a few weeks with no abdominal pain or other problems, and your doctor says it's OK, you can increase the intensity by either jogging, running, cycling or using any of the cardio machines at the gym. Running at a pace of 5 miles per hour increases your hourly calorie-burning potential to 760 calories, as Harvard Health Publishing notes. Cycling burns between 760 and over 1,000 calories per hour, depending on your speed and your body weight, and using the elliptical machine at the gym can burn up to 800 calories per hour. When you exercise more intensely, you don't need to do as much to get the weight-loss benefits. The Department of Health and Human Services says that 150 minutes of vigorous aerobic exercise each week is a good goal. If your body is ready and you have the time, you can also feel free to exceed that target. Another key part of exercise after a C-section to reduce your tummy is strength training. Building lean muscle not only makes you healthier and more able to tackle motherhood, but it also revs up your metabolism, so your body burns more calories even when you're not exercising. Doing targeted exercises to strengthen your abdominal and pelvic muscles is important, but they should be part of a program that strengthens all your body's major muscle groups — arms, shoulders, back, abdomen, chest and legs. Start out with light weights or your own bodyweight at first. Prenatal and postnatal exercise specialist Jessie Mundell recommends doing a post-C-section workout that includes squats, side planks, split squats, band pull aparts and TRX suspension rows. Mundell warns that certain exercises should be avoided, at least at first, including: Crunches, situps, leg raises and front planks Jumping and step-ups Heavy overhead presses Any heavily weighted exercise Any exercise that places direct downward pressure on the pelvic floor, such as the barbell back squat Start out with two brief total-body workouts each week, doing one or two sets of eight to 12 reps. If, after a couple of weeks, you haven't had any pain, you can add sets and other exercises to your workout. Stomach Exercises After Cesarean Abdominal exercises after a C-section won't flatten your stomach because you can't spot reduce. Flattening your stomach is all about burning fat. However, these exercises are integral to regaining total-body strength and function. Fitness and transformation expert and mother of four Heidi Powell recommends including the following exercises in your early post-C-section workout routine: Vacuums. Sit, stand or lie down on your back. Inhale fully into your lungs; then exhale deeply. When you have exhaled completely, hold your breath and draw in your abs, pulling your belly button in and up. Hold here for as long as you can; then keeping your abs drawn in, inhale slowly. Release and repeat up to 10 times. Dowel rotations. Hold a dowel or a broomstick across your upper back. Perform a vacuum, drawing your abs in and up. At the bottom of the exhale, hold your breath and slowly rotate from side to side. Continue until you need to take a breath; then repeat for a total of five to 10 reps. Heel slides. Lie on your back with your knees bent. Perform a vacuum and as you hold your breath slowly, slide your right heel out so your leg is fully extended; then draw it back in to the starting position. Inhale, exhale and then repeat doing 10 reps; then switch to your left leg. Do three to five sets of 10 to 15 repetitions on each side. Berghella V, Mackeen AD, Jauniaux ERM. Cesarean delivery. In: Landon MB, Galan HL, Jauniaux ERM, et al, eds. Gabbe's Obstetrics: Normal and Problem Pregnancies. 7th ed. Philadelphia, PA: Elsevier; 2021:chap 19.Hull AD, Resnik R, Silver RM. Placenta previa and accreta, vasa previa, subchorionic hemorrhage, and abruptio placentae. In: Lockwood CJ, Copel JA, Dugoff L, et al, eds. Creasy and Resnik's Maternal-Fetal Medicine: Principles and Practice. 9th ed. Philadelphia, PA: Elsevier; 2023:chap 43.Page 2Certain terms are used to describe your baby's position and movement through the birth canal.FETAL STATIONFetal station refers to where the presenting part is in your pelvis.The presenting part. The presenting part is the part of the baby that leads the way through the birth canal. Most often, it is the baby's head, but it can be a shoulder, the buttocks, or the feet.Ischial spines. These are bone points on the mother's pelvis. Normally the ischial spines are the narrowest part of the pelvis.0 station. This is when the baby's head is even with the ischial spines. The baby is said to be "engaged" when the largest part of the head has entered the pelvis.If the presenting part lies above the ischial spines, the station is reported as a negative number from -1 to -5. In first-time moms, the baby's head may engage by 36 weeks into the pregnancy. However, engagement may happen later in the pregnancy, or even during labor.FETAL LIEThis refers to how the baby's spine lines up with the mother's spine. Your baby's spine is between their head and tailbone.Your baby will most often settle into a position in the pelvis before labor begins. If your baby's spine runs in the same direction (parallel) as your spine, the baby is said to be in a longitudinal lie. Nearly all babies are in a longitudinal lie.If the baby is sideways (at a 90-degree angle to your spine), the baby is said to be in a transverse lie. FETAL ATTITUDEThe fetal attitude describes the position of the parts of your baby's body.The normal fetal attitude is commonly called the fetal position. The head is tucked down to the chest.The arms and legs are drawn in towards the center of the chest. Abnormal fetal attitudes include a head that is tilted back, so the brow or the face presents first. Other body parts may be positioned behind the back. When this happens, the presenting part will be larger as it passes through the pelvis. This makes delivery more difficult.DELIVERY PRESENTATIONDelivery presentation describes the way the baby is positioned to come down the birth canal for delivery.The best position for your baby inside your uterus at the time of delivery is head down. This is called cephalic presentation.This position makes it easier and safer for your baby to pass through the birth canal. Cephalic presentation occurs in about 97% of deliveries.There are different types of cephalic presentation, which depend on the position of the baby's limbs and head (fetal attitude). If your baby is in any position other than head down, your doctor may recommend a cesarean delivery.Breech presentation is when the baby's bottom is down. Breech presentation occurs about 3% of the time. There are a few types of breech:A complete breech is when the buttocks present first and both the hips and knees are flexed.A frank breech is when the hips are flexed so the legs are straight and completely drawn up toward the chest.Other breech positions occur when either the feet or knees present first. The shoulder, arm, or trunk may present first if the fetus is in a transverse lie. This type of presentation occurs less than 1% of the time. Transverse lie is more common when you deliver before your due date, or have twins or triplets.CARDINAL MOVEMENTS OF LABORAs your baby passes through the birth canal, the baby's head will change positions. These changes are needed for your baby to fit and move through your pelvis. These movements of your baby's head are called cardinal movements of labor.EngagementThis is when the widest part of your baby's head has entered the pelvis.Engagement tells your health care provider that your pelvis is large enough to allow the baby's head to move down (descend).DescentThis is when your baby's head moves down (descends) further through your pelvis.Most often, descent occurs during labor, either as the cervix dilates or after you begin pushing.FlexionDuring descent, the baby's head is flexed down so that the chin touches the chest.With the chin tucked, it is easier for the baby's head to pass through the pelvis.Internal RotationAs your baby's head descends further, the head will most often rotate so the back of the head is just below your pubic bone. This helps the head fit the shape of your pelvis.Usually, the baby will be face down toward your spine.Sometimes, the baby will rotate so it faces up toward the pubic bone.As your baby's head rotates, extends, or flexes during labor, the body will stay in position with one shoulder down toward your spine and one shoulder up toward your belly.ExtensionAs your baby reaches the opening of the vagina, usually the back of the head is in contact with your pubic bone.At this point, the birth canal curves upward, and the baby's head must extend back. It rotates under and around the pubic bone.External RotationAs the baby's head is delivered, it will rotate a quarter turn to be in line with the body.ExpulsionAfter the head is delivered, the top shoulder is delivered under the pubic bone.After the shoulder, the rest of the body is usually delivered without a problem. Surgical procedure to deliver a baby through an incision in the mother's abdomen Medical intervention Caesarean sectionA team of five performing a caesarean section[1]Other namesC-section, caesarean section, caesarean deliverySpecialtyObstetrics, gynaecology, surgery, neonatology, pediatrics, family medicineICD-10-PCS10D00Z0ICD-9-CM74MeSHD002585MedlinePlus002911[edit on Wikidata] Caesarean section, also known as C-section, cesarean, or caesarean delivery, is the surgical procedure by which one or more babies are delivered through an incision in the mother's abdomen. It is often performed because vaginal delivery would put the mother or child at risk (of paralysis or even death).[2] Reasons for the operation include, but are not limited to, obstructed labor, twin pregnancy, high blood pressure in the mother, breech birth, shoulder presentation, and problems with the placenta or umbilical cord.[2][3] A caesarean delivery may be performed based upon the shape of the mother's pelvis or history of a previous C-section.[2][3] A trial of vaginal birth after C-section may be possible.[2] The World Health Organization recommends that caesarean section be performed only when medically necessary.[3][4] A C-section typically takes 45 minutes to an hour.[2] It may be done with a spinal block, where the woman is awake, or under general anesthesia.[2] A urinary catheter is used to drain the bladder, and the skin of the abdomen is then cleaned with an antiseptic.[2] An incision of about 15 cm (6 inches) is then typically made through the mother's lower abdomen.[2] The uterus is then opened with a second incision and the baby delivered.[2] The incisions are then stitched closed.[2] A woman can typically begin breastfeeding as soon as she is out of the operating room and awake.[5] Often, several days are required in the hospital to recover sufficiently to return home.[2] C-sections result in a small overall increase in poor outcomes in low-risk pregnancies.[3] They also typically take about six weeks to heal from, longer than vaginal birth.[2] The increased risks include breathing problems in the baby and amniotic fluid embolism and postpartum bleeding in the mother.[3] Established guidelines recommend that caesarean sections not be used before 39 weeks of pregnancy without a medical reason.[6] The method of delivery does not appear to affect subsequent sexual function.[7] In 2012, about 23 million C-sections were done globally.[8] The international healthcare community has previously considered the rate of 10% and 15% ideal for caesarean sections.[4] Some evidence finds a higher rate of 19% may result in better outcomes.[8] More than 45 countries globally have C-section rates less than 7.5%, while more than 50 have rates greater than 27%.[8] Efforts are being made to both improve access to and reduce the use of C-section.[8] In the United States as of 2017, about 32% of deliveries are by C-section.[9] The surgery has been performed at least as far back as 715 BC following the death of the mother, with the baby occasionally surviving.[10] A popular idea is that the Roman statesman Julius Caesar was born via caesarean section and is the namesake of the procedure, but if this is the true etymology, it is based on a misconception: until the modern era, C-sections seem to have been invariably fatal to the mother, and Caesar's mother Aurelia not only survived her son's birth but lived for nearly 50 years afterward.[11][12] There are many ancient and medieval legends, oral histories, and historical records of laws about C-sections around the world, especially in Europe, the Middle East and Asia.[13][14] The first recorded successful C-section (where both the mother and the infant survived) was performed on a woman in Switzerland in 1500 by her husband, Jakob Nufer, though this was not recorded until 8 decades later.[13] With the introduction of antiseptics and anesthetics in the 19th century, the survival of both the mother and baby, and thus the procedure, became significantly more common.[10][15] A seven-week-old caesarean section scar and linea nigra visible on a 31-year-old mother: Longitudinal incisions are still sometimes used. Caesarean section (C-section) is recommended when vaginal delivery might pose a risk to the mother or baby. C-sections are also carried out for personal and social reasons on maternal request in some countries. Complications of labor and factors increasing the risk associated with vaginal delivery include: Abnormal presentation (breech or transverse positions) Prolonged labor or a failure to progress (obstructed labour, also known as dystocia) Fetal distress Cord prolapse Uterine rupture or an elevated risk thereof Uncontrolled hypertension, pre-eclampsia,[16] or eclampsia in the mother Tachycardia in the mother or baby after amniotic rupture (the waters breaking) Placenta problems (placenta praevia, placental abruption or placenta accreta) Failed labor induction Failed instrumental delivery (by forceps or ventouse (Sometimes, a trial of forceps/ventouse delivery is attempted, and if unsuccessful, the baby will need to be delivered by caesarean section.) Large baby weighing > 4,000 grams (macrosomia) Umbilical cord abnormalities (vasa previa, multilobate including bilobate and succenturiate-lobed placentas, velamentous insertion) Other complications of pregnancy, pre-existing conditions, and concomitant diseases, include: Previous (high risk) fetus HIV infection of the mother with a high viral load (HIV with a low maternal viral load is not necessarily an indication for caesarean section) An outbreak of genital herpes in the third trimester[17] (which can cause infection in the baby if born vaginally) Previous classical (longitudinal) caesarean section Previous uterine rupture Prior problems with the healing of the perineum (from previous childbirth or Crohn's disease) Bicornuate uterus Rare cases of posthumous birth after the death of the mother Other Decreasing experience of accoucheurs with the management of breech presentation. Although obstetricians and midwives are extensively trained in proper procedures for breech presentation deliveries using simulation mannequins, there is decreasing experience with actual vaginal breech delivery, which may increase the risk.[18] The prevalence of caesarean section is generally agreed to be higher than needed in many countries, and physicians are encouraged to actively lower the rate, as a caesarean rate higher than 10–15% is not associated with reductions in maternal or infant mortality rates,[4] although some evidence support that a higher rate of 19% may result in better outcomes.[8] Some of these efforts include emphasizing a long latent phase of labor is not abnormal and not a justification for C-section; a new definition of the start of active labor from a cervical dilatation of 4 cm to a dilatation of 6 cm; and allowing women who have previously given birth to push for at least 2 hours, with 3 hours of pushing for women who have not previously given birth, before labor arrest is considered.[3] Physical exercise during pregnancy decreases the risk.[19] Additionally, results from a 2021 systematic review of the evidence on outpatient cervical ripening found that in women with low-risk pregnancies, the risk of caesarean delivery with harm to the mother or child was not significantly different from when done in an inpatient setting.[20] Adverse outcomes in low-risk pregnancies occur in 8.6% of vaginal deliveries and 9.2% of caesarean section deliveries.[3] In those who are low risk, the risk of death for caesarean sections is 13 per 100,000 vs. for vaginal birth 3.5 per 100,000 in the developed world.[3] The United Kingdom National Health Service gives the risk of death for the mother as three times that of a vaginal birth.[21] In Canada, the difference in serious morbidity or mortality for the mother (e.g. cardiac arrest, wound hematoma, or hysterectomy) was 1.8 additional cases per 100.[22] The difference in in-hospital maternal death was not significant.[22] Transvaginal ultrasonography of a uterus years after a caesarean section, showing the characteristic scar formation in its anterior part A caesarean section is associated with risks of postoperative adhesions, incisional hernias (which may require surgical correction), and wound infections.[23] If a caesarean is performed in an emergency, the risk of the surgery may be increased due to several factors. The patient's stomach may not be empty, increasing the risk of anaesthesia.[24] Other risks include severe blood loss (which may require a blood transfusion) and post-dural-puncture spinal- headaches.[23] Wound infections occur after caesarean sections at a rate of 3–15%.[25] The presence of chorioamnionitis and obesity predisposes the woman to develop a surgical site infection.[25] Women who had caesarean sections are more likely to have problems with later pregnancies, and women who want larger families should not seek an elective caesarean unless medical indications to do so exist. The risk of placenta accreta, a potentially life-threatening condition that is more likely to develop where a woman has had a previous caesarean section, is 0.13% after two caesarean sections, but increases to 2.13% after four and then to 6.74% after six or more. Along with this is a similar rise in the risk of emergency hysterectomies at delivery.[26] Mothers can experience an increased incidence of postnatal depression, and can experience significant psychological trauma and ongoing birth-related post-traumatic stress disorder after obstetric intervention during the birthing process.[27] Factors like pain in the first stage of labor, feelings of powerlessness, intrusive emergency obstetric intervention are important in the subsequent development of psychological issues related to labor and delivery.[27] Further information: Delivery after previous caesarean section Women who have had a caesarean for any reason are somewhat less likely to become pregnant again as compared to women who have previously delivered only vaginally.[28] Women who had just one previous caesarean section are more likely to have problems with their second birth.[3] Delivery after previous caesarean section is by either of two main options:[29] Vaginal birth after caesarean section (VBAC) Elective repeat caesarean section (ERCS) Both have higher risks than a vaginal birth with no previous caesarean section. A vaginal birth after caesarean section (VBAC) confers a higher risk of uterine rupture (5 per 1,000), blood transfusion or endometritis (10 per 1,000), and perinatal death of the child (0.25 per 1,000).[30] Furthermore, 20% to 40% of planned VBAC attempts end in caesarean section being needed, with greater risks of complications in an emergency repeat caesarean section than in an elective repeat caesarean section.[31][32] On the other hand, VBAC confers less maternal morbidity and a decreased risk of complications in future pregnancies than elective repeat caesarean section.[33] Suturing of the uterus after extraction Closed incision for low transverse abdominal incision after stapling has been completed Several steps can be taken during abdominal or pelvic surgery to minimize postoperative complications, such as developing adhesions. Such techniques and principles may include: Handling all tissue with absolute care Using powder-free surgical gloves Controlling bleeding Choosing sutures and implants carefully Keeping tissue moist Preventing infection with antibiotics given intravenously to the mother before skin incision Despite these proactive measures, adhesion formation is a recognized abdominal or pelvic surgery complication. To prevent adhesions from forming after caesarean section, adhesion barrier can be placed during surgery to minimize the risk of adhesions between the uterus and ovaries, the small bowel, and almost any tissue in the abdomen or pelvis. This is not current UK practice, as there is no compelling evidence to support the benefit of this intervention.[citation needed] Adhesions can cause long-term problems, such as: Infertility, which may end when adhesions distort the tissues of the ovaries and tubes, impeding the normal passage of the egg (ovum) from the ovary to the uterus. One in five infertility cases may be adhesion-related (stoval) Chronic pelvic pain, which may result when adhesions are present in the pelvis. Almost 50% of chronic pelvic pain cases are estimated to be adhesion-related (stoval) Small bowel obstruction: the disruption of normal bowel flow, which can result when adhesions twist or pull the small bowel. The risk of adhesion formation is one reason why vaginal delivery is usually considered safer than elective caesarean section where there is no medical indication for section for either maternal or fetal reasons. Non-medically indicated (elective) childbirth before 39 weeks gestation "carry significant risks for the baby with no known benefit to the mother." Newborn mortality at 37 weeks may be up to 3 times the number at 40 weeks and is elevated compared to 38 weeks gestation. These early-term births were associated with more death during infancy, compared to those occurring at 39 to 41 weeks (full-term).[34] Researchers in one study and another review found many benefits to going full term, but no adverse effects in the health of the mothers or babies.[34][35] The American Congress of Obstetricians and Gynecologists and medical policymakers review research studies and find more incidence of suspected or proven sepsis, RDS, hypoglycemia, need for respiratory support, need for NICU admission, and need for hospitalization > 4–5 days. In the case of caesarean sections, rates of respiratory death were 14 times higher in pre-labor at 37 compared with 40 weeks gestation, and 8.2 times higher for pre-labor caesarean at 38 weeks. In this review, no studies found decreased neonatal morbidity due to non-medically indicated (elective) delivery before 39 weeks.[34] For otherwise healthy twin pregnancies where both twins are head down a trial of vaginal delivery is recommended at between 37 and 38 weeks.[36][37] Vaginal delivery, in this case, does not worsen the outcome for either infant as compared with caesarean section.[37] There is some controversy on the best method of delivery where the first twin is head first and the second is not, but most obstetricians will recommend normal delivery unless there are other reasons to avoid vaginal birth.[37] When the first twin is not head down, a caesarean section is often recommended.[37] Regardless of whether the twins are delivered by section or vaginally, the medical literature recommends delivery of dichorionic twins at 38 weeks, and monochorionic twins (identical twins sharing a placenta) by 37 weeks due to the increased risk of stillbirth in monochorionic twins who remain in utero after 37 weeks.[38][39] The consensus is that late preterm delivery of monochorionic twins is justified because the risk of stillbirth for post-37-week delivery is significantly higher than the risks posed by delivering monochorionic twins near term (i.e., 36–37 weeks).[40] The consensus concerning monoamniotic twins (identical twins sharing an amniotic sac), the highest risk type of twins, is that they should be delivered by caesarean section at or shortly after 32 weeks since the risks of intrauterine death of one or both twins are higher after this gestation than the risk of complications of prematurity.[41][42][43] In a research study widely publicized, singleton children born earlier than 39 weeks may have developmental problems, including slower learning in reading and math.[44] Other risks include: Wet lung (Transient Tachypnea of the Newborn): Failure to pass through the birth canal does not expose the baby to cortisol and epinephrine which typically would reverse the potassium/sodium pumps in the baby's lung. This causes fluid to remain in the lung.[45] Potential for early delivery and complications: Preterm delivery may be inadvertently carried out if the due date calculation is inaccurate. One study found an increased complication risk if a repeat elective caesarean section is performed even a few days before the recommended 39 weeks.[46] Higher infant mortality risk: In caesarean sections performed with no indicated medical risk (singleton at full term in a head-down position with no other obstetric or medical complications), the risk of death in the first 28 days of life has been cited as 1.77 per 1,000 live births among women who had caesarean sections, compared to 0.62 per 1,000 for women who delivered vaginally.[47] Birth by caesarean section also seems to be associated with worse health outcomes later in life, including overweight or obesity, problems in the immune system, and poor digestive system.[48][49] However, caesarean deliveries are found to not affect a newborn's risk of developing food allergies.[50] This finding contradicts a previous study that claims babies born via caesarean section have lower levels of Bacteroides that is linked to peanut allergy in infants.[51] Caesarean sections have been classified in various ways by different perspectives.[52] One way to discuss all classification systems is to group them by their focus either on the urgency of the procedure (most common), characteristics of the mother, or as a group based on other, less commonly discussed factors.[52] Conventionally, caesarean sections are classified as being either an elective surgery or an emergency operation.[53] Classification is used to help communication between the obstetric, midwifery and anaesthetic team for discussion of the most appropriate method of anaesthesia. The decision whether to perform general anesthesia or regional anesthesia (spinal or epidural anaesthetic) is important and is based on many indications, including how urgent the delivery needs to be as well as the medical and obstetric history of the woman.[53] Regional anaesthetic is almost always safer for the woman and the baby but sometimes general anaesthetic is safer for one or both, and the classification of urgency of the delivery is an important issue affecting this decision. A planned caesarean (or elective/scheduled caesarean), arranged ahead of time, is most commonly arranged for medical indications which have developed before or during the pregnancy, and ideally after 39 weeks of gestation. In the UK, this is classified as a 'grade 4' section (delivery timed to suit the mother or hospital staff) or as a 'grade 3' section (no maternal or fetal compromise but early delivery needed). Emergency caesarean sections are performed in pregnancies in which a vaginal delivery was planned initially, but an indication for caesarean delivery has since developed. In the UK they are further classified as grade 2 (delivery required within 90 minutes of the decision but no immediate threat to the life of the woman or the fetus) or grade 1 (delivery required within 30 minutes of the decision: immediate threat to the life of the mother or the baby or both.)[54] Elective caesarean sections may be performed based on an obstetrical or medical indication, or because of a medically non-indicated maternal request.[36] Among women in the United Kingdom, Sweden, and Australia, about 7% preferred caesarean section as a method of delivery.[36] In cases without medical indications the American Congress of Obstetricians and Gynaecologists and the UK Royal College of Obstetricians and Gynaecologists recommend a planned vaginal delivery.[55] The National Institute for Health and Care Excellence recommends that if after a woman has been provided information on the risk of a planned caesarean section and she still insists on the procedure it should be provided.[36] If provided this should be done at 39 weeks of gestation or later.[55] There is no evidence that ECS can reduce mother-to-child hepatitis B and hepatitis C virus transmission.[56][57][58][59][60] Main article: Caesarean delivery on maternal request Caesarean delivery on maternal request (CDMR) is a medically unnecessary caesarean section, where the conduct of a childbirth via a caesarean section is requested by the pregnant patient even though there is not a medical indication to have the surgery.[61] Systematic reviews have found no strong evidence about the impact of caesareans for nonmedical reasons.[36][62] Recommendations encourage counseling to identify the reasons for the request, addressing anxieties and information, and encouraging vaginal birth.[36][63] Elective caesareans at 38 weeks in some studies showed increased health complications in the newborn. For this reason ACOG and NICE recommend that elective caesarean sections should not be scheduled before 39 weeks gestation unless there is a medical reason.[64][65][55] Planned caesarean sections may be scheduled earlier if there is a medical reason.[65] See also: Delivery after previous caesarean section Mothers who have previously had a caesarean section are more likely to have a caesarean section for future pregnancies

than mothers who have never had a caesarean section. There is a discussion about the circumstances under which women should have a vaginal birth after a previous caesarean. Vaginal birth after caesarean (VBAC) is the practice of birthing a baby vaginally after a previous baby has been delivered by caesarean section (surgically).[66] According to the American College of Obstetricians and Gynecologists (ACOG), successful VBAC is associated with decreased maternal morbidity and a decreased risk of complications in future pregnancies.[33] According to the American Pregnancy Association, 90% of women who have undergone caesarean deliveries are candidates for VBAC.[31] Approximately 60–80% of women opting for VBAC will successfully give birth vaginally, which is comparable to the overall vaginal delivery rate in the United States in 2010.[31][32][67] For otherwise healthy twin pregnancies where both twins are head down a trial of vaginal delivery is recommended between 37 and 38 weeks.[36][37] Vaginal delivery in this case does not worsen the outcome for either infant as compared with caesarean section.[37] There is controversy on the best method of delivery where the first twin is head first and the second is not.[37] When the first twin is not head down at the point of labor starting, a caesarean section should be recommended.[37] Although the second twin typically has a higher frequency of problems, it is unknown if a planned caesarean section affects this.[36] It is estimated that 75% of twin pregnancies in the United States were delivered by caesarean section in 2008.[68] Main article: Breech birth A breech birth is the birth of a baby from a breech presentation, in which the baby exits the pelvis with the buttocks or feet first as opposed to the normal head-first presentation. In breech presentation, fetal heart sounds are heard just above the umbilicus. Babies are usually born head first. If the baby is in another position the birth may be complicated. In a 'breech presentation', the unborn baby is bottom-down instead of head-down. Babies born bottom-first are more likely to be harmed during a normal (vaginal) birth than those born head-first. For instance, the baby might not get enough oxygen during the birth. Having a planned caesarean may reduce these problems. A review looking at planned caesarean section for singleton breech presentation with planned vaginal birth, concludes that in the short term, births with a planned caesarean were safer for babies than vaginal births. Fewer babies died or were seriously hurt when they were born by caesarean. There was tentative evidence that children who were born by caesarean had more health problems at age two. Caesareans caused some short-term problems for mothers such as more abdominal pain. They also had some benefits, such as less urinary incontinence and less perineal pain.[69] The bottom-down position presents some hazards to the baby during the process of birth, and the mode of delivery (vaginal versus caesarean) is controversial in the fields of obstetrics and midwifery. Though vaginal birth is possible for the breech baby, certain fetal and maternal factors influence the safety of vaginal breech birth. The majority of breech babies born in the United States and the UK are delivered by caesarean section as studies have shown increased risks of morbidity and mortality for vaginal breech delivery, and most obstetricians counsel against planned vaginal breech birth for this reason. As a result of reduced numbers of actual vaginal breech deliveries, obstetricians and midwives are at risk of de-skilling in this important skill. All those involved in delivery of obstetric and midwifery care in the UK undergo mandatory training in conducting breech deliveries in the simulation environment (using dummy pelvises and mannequins to allow the practice of this important skill) and this training is carried out regularly to keep skills up to date. Main article: Resuscitative hysterotomy A resuscitative hysterotomy, also known as a peri-mortem caesarean delivery, is an emergency caesarean delivery carried out where maternal cardiac arrest has occurred, to assist in resuscitation of the mother by removing the aortocaval compression generated by the gravid uterus. Unlike other forms of caesarean section, the welfare of the fetus is a secondary priority only, and the procedure may be performed even before the limit of fetal viability if it is judged to be of benefit to the mother. There are several types of caesarean section (CS). An important distinction lies in the type of incision (longitudinal or transverse) made on the uterus, apart from the incision on the skin: the vast majority of skin incisions are a transverse suprapubic approach known as a Pfannenstiel incision but there is no way of knowing from the skin scar which way the uterine incision was conducted. The classical caesarean section involves a longitudinal midline incision on the uterus which allows a larger space to deliver the baby. It is performed at very early gestations where the lower segment of the uterus is unformed as it is safer in this situation for the baby: but it is rarely performed other than at these early gestations, as the operation is more prone to complications than a low transverse uterine incision. Any woman who has had a classical section will be recommended to have an elective repeat section in subsequent pregnancies as the vertical incision is much more likely to rupture in labor than the transverse incision. The lower uterine segment section is the procedure most commonly used today; it involves a transverse cut just above the edge of the bladder. It results in less blood loss and has fewer early and late complications for the mother, as well as allowing her to consider a vaginal birth in the next pregnancy. A caesarean hysterectomy consists of a caesarean section followed by the removal of the uterus. This may be done in cases of intractable bleeding or when the placenta cannot be separated from the uterus. The EXIT procedure is a specialized surgical delivery procedure used to deliver babies who have airway compression. The Misgav Ladach method is a modified caesarean section that has been used nearly globally since the 1990s. It was described by Michael Stark, the president of the New European Surgical Academy, at the time he was the director of Misgav Ladach, a general hospital in Jerusalem. The method was presented during a FIGO conference in Montréal in 1994[70] and then distributed by the University of Uppsala, Sweden, in more than 100 countries. This method is based on minimalistic principles. He examined all steps in caesarean sections in use, analyzed them for their necessity, and, if found necessary, for their optimal performance. For the abdominal incision, he used the modified Joel Cohen incision and compared the longitudinal abdominal structures to strings on musical instruments. As blood vessels and muscles have lateral sway, it is possible to stretch rather than cut them. The peritoneum is opened by repeat stretching, no abdominal swabs are used, the uterus is closed in one layer with a big needle to reduce the amount of foreign body as much as possible, the peritoneal layers remain unsutured and the abdomen is closed with two layers only. Women undergoing this operation recover quickly and can look after the newborns soon after surgery. Many publications are showing the advantages over traditional caesarean section methods. There is also an increased risk of abruptio placentae and uterine rupture in subsequent pregnancies for women who underwent this method in prior deliveries.[71][72] Since 2015, the World Health Organization has endorsed the Robson classification as a holistic means of comparing childbirth rates between different settings, to allow more accurate comparison of caesarean section rates.[73] Several caesarean sections Is: supra-umbilical incision Im: median incision IM: Maylard incision IP: Pfannenstiel incision Removal of the baby Illustration depicting caesarean section Antibiotic prophylaxis is used before an incision.[74] The uterus is incised, and this incision is extended with blunt pressure along a cephalad-caudad axis.[74] The infant is delivered, and the placenta is then removed.[74] The surgeon then decides about uterine exteriorization.[74] Single-layer uterine closure is used when the mother does not want a future pregnancy.[74] When subcutaneous tissue is 2 cm thick or more, surgical suture is used.[74] Discouraged practices include manual cervical dilation, any subcutaneous drain,[75] or supplemental oxygen therapy with intent to prevent infection.[74] Caesarean section can be performed with single or double layer suturing of the uterine incision.[76] Single layer closure compared with double layer closure has been observed to result in reduced blood loss during the surgery. It is uncertain whether this is the direct effect of the suturing technique or if other factors such as the type and site of abdominal incision contribute to reduced blood loss.[77] Standard procedure includes the closure of the peritoneum. Research questions whether this is needed, with some studies indicating peritoneal closure is associated with longer operative time and hospital stay.[78] The Misgav Ladach method is a surgery technical that may have fewer secondary complications and faster healing, due to the insertion into the muscle.[79] Both general and regional anaesthesia (spinal, epidural or combined spinal and epidural anaesthesia) are acceptable for use during caesarean section. Evidence does not show a difference between regional anaesthesia and general anaesthesia concerning major outcomes in the mother or baby.[80] Regional anaesthesia may be preferred as it allows the mother to be awake and interact immediately with her baby.[81] Compared to general anaesthesia, regional anaesthesia is better at preventing persistent postoperative pain 3 to 8 months after caesarean section.[82] Other advantages of regional anesthesia may include the absence of typical risks of general anesthesia: pulmonary aspiration (which has a relatively high incidence in patients undergoing anesthesia in late pregnancy) of gastric contents and esophageal intubation.[80] One trial found no difference in satisfaction when general anaesthesia was compared with either spinal anaesthesia.[80] Regional anaesthesia is used in 95% of deliveries, with spinal and combined spinal and epidural anaesthesia being the most commonly used regional techniques in scheduled caesarean section.[83] Regional anaesthesia during caesarean section is different from the analgesia (pain relief) used in labor and vaginal delivery.[84][85][86] The pain that is experienced because of surgery is greater than that of labor and therefore requires a more intense nerve block. General anesthesia may be necessary because of specific risks to the mother or child. Patients with heavy, uncontrolled bleeding may not tolerate the hemodynamic effects of regional anesthesia. General anesthesia is also preferred in very urgent cases, such as severe fetal distress when there is no time to perform a regional anesthesia. Postpartum infection is one of the main causes of maternal death and may account for 10% of maternal deaths globally.[87][36][88] A caesarean section greatly increases the risk of infection and associated morbidity, estimated to be between 5 and 20 times as high, and routine use of antibiotic prophylaxis to prevent infections was found by a meta-analysis to substantially reduce the incidence of febrile morbidity.[88] Infection can occur in around 8% of women who have caesareans,[36] largely endometritis, urinary tract infections and wound infections. Preventative antibiotics in women undergoing caesarean section decreased wound infection, endometritis, and serious infectious complications by about 65%.[88] Side effects and effects on the baby are unclear.[88] Women who have caesareans can recognize the signs of fever that indicate the possibility of wound infection.[36] Taking antibiotics before skin incision rather than after cord clamping reduces the risk for the mother, without increasing adverse effects for the baby.[36][89] Moderate certainty evidence suggests that chlorhexidine gluconate as a skin preparation is slightly more effective in the prevention of surgical site infections than povidone-iodine but further research is needed.[90] Some doctors believe that during a caesarean section, mechanical cervical dilation with a finger or forceps will prevent the obstruction of blood and lochia drainage, and thereby benefit the mother by reducing the risk of death. The evidence as of 2018[update] neither supported nor refuted this practice for reducing postoperative morbidity, pending further large studies.[91] Hypotension (low blood pressure) is common in women who have spinal anaesthesia; intravenous fluids such as crystalloids, or compressing the legs with bandages, stockings, or inflatable devices may help to reduce the risk of hypotension but the evidence is still uncertain about their effectiveness.[92] The WHO and UNICEF recommend that infants born by Caesarean section should have skin-to-skin contact (SSC) as soon as the mother is alert and responsive. Immediate SSC following a spinal or epidural anesthetic is possible because the mother remains alert; however, after a general anaesthetic, the father or other family member may provide SSC until the mother is able.[93] It is known that during the hours of labor before a vaginal birth, a woman's body begins to produce oxytocin which aids in the bonding process, and it is thought that SSC can trigger its production as well. Indeed, women have reported that they felt that SSC had helped them to feel close to and bond with their infant. A review of literature also found that immediate or early SSC increased the likelihood of successful breastfeeding and that newborns were found to cry less and relax quicker when they had SSC with their father as well.[93] It is common for women who undergo caesarean section to have reduced or absent bowel movements for hours to days. During this time, women may experience abdominal cramps, nausea, and vomiting. This usually resolves without treatment.[94] Poorly controlled pain following non-emergent caesarean section occurs in between 13% and 78% of women.[95] Following caesarean delivery, complementary and alternative therapies (e.g., acupuncture) may help to relieve pain, though evidence supporting the efficacy of such treatments is extremely limited.[96] Abdominal, wound, and back pain can continue for months after a caesarean section. Non-steroidal anti-inflammatory drugs can be helpful.[36] For the first couple of weeks after a caesarean, women should avoid lifting anything heavier than their baby. To minimize pain during breastfeeding, women should experiment with different breastfeeding holds including the football hold and side-lying hold.[97] Women who have had a caesarean are more likely to experience pain that interferes with their usual activities than women who have vaginal births, although by six months there is generally no longer a difference.[98] Pain during sexual intercourse is less likely than after vaginal birth; by six months there is no difference.[36] There may be a somewhat higher incidence of postnatal depression in the first weeks after childbirth for women who have caesarean sections, but this difference does not persist.[36] Some women who have had caesarean sections, especially emergency caesareans, experience post-traumatic stress disorder.[36] A woman who undergoes caesarean section has 18.3% chance of chronic surgical pain at three months and 6.8% chance of surgical pain at 12 months.[99] In recent meta-analyses, caesarean section has been associated with a lower risk of urinary incontinence and pelvic organ prolapse compared to vaginal delivery.[100][101] Women who have vaginal births, after a previous caesarean, are more than twice as likely to subsequently have pelvic floor surgery as those who have another caesarean.[102][103] Global rates of caesarean section are increasing.[25] It doubled from 2003 to 2018 to reach 21%, and is increasing annually by 4%. The trend toward increasing rates is particularly strong in the middle and high-income countries.[104]:101 In southern Africa, the cesarean rate is less than 5%; while the rate is almost 60% in some parts of Latin America.[105] The Canadian rate was 26% in 2005–2006.[106] Australia has a high caesarean section rate, at 31% in 2007.[107] At one time a rate of 10% to 15% was thought to be ideal;[4] a rate of 19% may result in better outcomes.[8] The World Health Organization officially withdrew its previous recommendation of a 15% C-section rate in June 2010. Their official statement read, "There is no empirical evidence for an optimum percentage. What matters most is that all women who need caesarean sections receive them."[108] More than 50 nations have rates greater than 27%. Another 45 countries have rates of less than 7.5%.[8] There are efforts to both improve access to and reduce the use of C-sections.[8] Globally, 1% of all caesarean deliveries are carried out without medical need. Overall, the caesarean section rate was 25.7% for 2004–2008.[109][110] There is no significant difference in caesarean rates when comparing midwife continuity care to conventional fragmented care.[111] More emergency caesareans—about 66%—are performed during the day rather than the night.[112] The rate has risen to 46% in China and to levels of 25% and above in many Asian, European and Latin American countries.[113] In Brazil and Iran the caesarean section rate is greater than 40%.[114] Brazil has one of the highest caesarean section rates in the world, with rates in the public sector of 35–45%, and 80–90% in the private sector.[115] Across Europe, there are differences between countries: in Italy, the caesarean section rate is 40%, while in the Nordic countries it is 14%.[116] In the United Kingdom, in 2008, the rate was 24%.[117] In Ireland the rate was 26.1% in 2009.[118] In Italy, the incidence of caesarean sections is particularly high, although it varies from region to region.[119] In Campania, 60% of 2008 births reportedly occurred via caesarean sections.[120] In the Rome region, the mean incidence is around 44%, but can reach as high as 85% in some private clinics.[121][122] In the United States, cesarean deliveries began rising in the 1960s and started becoming routine in the 1960s and 1970s.[104]:101 In the United States, the rate of C-sections is around 33%, varying from 23% to 40% depending on the state.[3] One of three women who gave birth in the US delivered by caesarean in 2011. In 2012, close to 23 million C-sections were carried out globally.[8] With nearly 1.3 million stays, caesarean section was one of the most common procedures performed in U.S. hospitals in 2011. It was the second-most common procedure performed for people ages 18 to 44 years old.[123] Caesarean rates in the U.S. have risen considerably since 1996.[124] The rate has increased in the United States, to 33% of all births in 2012, up from 21% in 1996.[3] In 2010, the caesarean delivery rate was 32.8% of all births (a slight decrease from 2009's high of 32.9% of all births).[125] A study found that in 2011, women covered by private insurance were 11% more likely to have a caesarean section delivery than those covered by Medicaid.[126] The increase in use has not resulted in improved outcomes, resulting in the position that C-sections may be done too frequently.[3] It is believed that the high rate of induced deliveries has also led to the high rate of c-sections because they are twice as likely to lead to one.[127] Hospitals and doctors make more money from C-section births than vaginal deliveries. Economists have calculated that hospitals may make a few thousand dollars more and doctors a few hundred. It has been found that for-profit hospitals do more c-sections than non-profit hospitals.[127] One study looked at the rate of c-sections done for women who were themselves doctors. It found that there was a 10 percent decrease in the rate of c-sections vs the general population. But if the hospital paid their doctors a flat salary removing the incentive to do the surgical procedures, which take more time, the rate of c-sections done on women who were themselves physicians exceeded that of the procedure done on non-medically knowledgeable mothers, suggesting that some women who needed c-sections were not getting them.[128] Concerned over the rising number of cesarean deliveries and hospital costs, in 2009 Minnesota introduced a blended payment rate for either vaginal or cesarean uncomplicated births (i.e., a similar payment regardless of delivery mode). As a result, the prepolicy cesarean rate of 22.8% dropped by 3.24 percentage points. The cost of childbirth hospitalizations in Minnesota dropped by $425.80 at the time the policy was initiated and continued to drop by $95.04 per quarter with no significant effects on maternal morbidity.[129] The rise of cesarean births in the United States has coincided with counter-movements emphasizing natural childbirth with a lesser degree of medical intervention.[104]:101–102 The rate of cesarean sections began to sharply increase in China in the 1990s.[104]:101 This increase was driven by the expansion of China's modern hospital infrastructure, and occurred first in urban areas.[104]:101 The rise in cesarean deliveries has also resulted in social critique of the medical establishment over the medical necessity of performing cesarean sections.[104]:101–102 A baby being removed from its dying mother's womb A caesarean section performed by indigenous healers in Kahura, Uganda. As observed by medical missionary Robert William Felkin in 1879. There are many conflicting stories of the first successful caesarean section (or C-section) in which both mother and baby survived. It is, however, known that the procedure had been attempted for hundreds of years before it became accepted at the beginning of the twentieth century.[11] While forceps have gone through periods of high popularity, today they are only used in approximately 10% of deliveries. The C-section has become the more popular solution for difficult deliveries. In 2005, one-third of babies were born via C-section. Historically, caesarean sections performed upon a live woman usually resulted in the death of the mother.[130] It was considered an extreme measure, performed only when the mother was already dead or considered to be beyond help. By way of comparison, see the resuscitative hysterotomy or perimortem caesarean section. According to the ancient Chinese Records of the Grand Historian, Luzhong (陸終), a sixth-generation descendant of the mythical Yellow Emperor, had six sons, all born by "cutting open the body". The sixth son Jilian founded the House of Mi that ruled the State of Chu (c. 1030–223 BC).[131] The Sanskrit medical treatise Sushruta Samhita, composed in the early 1st millennium CE, mentions post-mortem caesarean sections.[132] The first available non-mythical record of a C-section is the mother of Bindusara (born c. 320 BC, ruled 298 – c. 272 BC), the second Mauryan Samrat (emperor) of India, accidentally consumed poison and died when she was close to delivering him. Chanakya, Chandragupta's teacher and adviser, made up his mind that the baby should survive. He cut open the belly of the queen and took out the baby, thus saving the baby's life.[133] An early account of caesarean section in Iran (Persia) is mentioned in the book of Shahnameh, written around 1000 AD, and relates to the birth of Rostam, the legendary hero of that country.[134][135] According to the Shahnameh, the Simurgh instructed Zal upon how to perform a caesarean section, thus saving Rudaba and the child Rostam. In Persian literature caesarean section is known as Rostamina (136). In the Irish mythological text the Ulster Cycle, the character Furbaide Ferbend is said to have been born by posthumous caesarean section, after his mother was murdered by his evil aunt Medb. The Babylonian Talmud, an ancient Jewish religious text, mentions a procedure similar to the caesarean section. The procedure is termed yotzei dofen. It also discusses at length the permissibility of performing a C-section on a dying or dead mother.[133] Rabbinical reports from the 2nd century AD about discussions that took place even earlier suggested that Jewish women regularly survived the operation in Roman times, but this conflicts with the general view that caesarean sections were always fatal to the mother in the pre-modern era.[137] Pliny the Elder theorized that Julius Caesar's (born 100 BC) name came from an ancestor who was born by caesarean section, but the truth of this is debated (see the discussion of the etymology of Caesar). Some popular misconceptions involve Caesar himself being born from the procedure; which is considered false because the procedure was lethal to mothers in ancient Rome and Caesar's mother Aurelia Cotta lived until he was an adult.[138][11] The Ancient Roman caesarean section was first performed to remove a baby from the womb of a mother who died during childbirth, a practice sometimes called the Caesarean law.[139] The Spanish saint Raymond Nonnatus (1204–1240) received his surname—from the Latin non-natus ('not born')—because he was born by caesarean section. His mother died while giving birth to him.[140] There is some indirect evidence that the first caesarean section that was survived by both the mother and child was performed in Prague in 1337.[141][142] The mother was Beatrice of Bourbon, the second wife of the King of Bohemia John of Luxembourg. Beatrice gave birth to the king's son Wenceslaus I, later the Duke of Luxembourg, Brabant, and Limburg, and who became the half brother of the later King of Bohemia and Holy Roman Emperor, Charles IV. In an account from the 1580s, Jakob Nufer, a veterinarian in Siegershausen, Switzerland, is supposed to have operated on his wife after a prolonged labour, with her surviving. His wife allegedly bore five more children, including twins, and the baby delivered by caesarean section purportedly lived to the age of 77.[143][144][145] For most of the time since the 16th century, the procedure had a high mortality rate by modern standards. Key steps in reducing mortality were: Introduction of the transverse incision technique to minimize bleeding by Ferdinand Adolf Kehrer in 1881 is thought to be the first modern CS performed. The introduction of uterine suturing by Max Sänger in 1882 Modification by Hermann Johannes Pfannenstiel in 1900, see Pfannenstiel incision Extraperitoneal CS and then moving to low transverse incision (Krönig, 1912)[clarification needed] Adherence to principles of asepsis Anesthesia advances Blood transfusion Antibiotics Indigenous people in the Great Lakes region of Africa, including Rwanda and Uganda, performed caesarean sections which in one account by Robert William Felkin from 1879 resulted in the survival of both mother and child. Banana wine was used, although the site of the incision was then also washed with water and, post-operation, covered with a paste made by chewing two different roots. From the well-developed nature of the medical procedures employed he concluded that these procedures had been employed for some time.[146][147][148] James Barry was the first European doctor to carry out a successful caesarean in Africa, while posted to Cape Town between 1817 and 1828.[149] The first successful caesarean section to be performed in the United States took place in Rockingham County, Virginia in 1794. The procedure was performed by Dr. Jesse Bennett on his wife Elizabeth.[150] Saint Caesarius of Terracina, invoked for the success of caesarean delivery The patron saint of caesarean section is Caesarius, a young deacon martyred at Terracina, who has replaced and Christianized the pagan figure of Caesar.[151] The martyr (Saint Cesareo in Italian) is invoked for the success of this surgical procedure, because it was considered the new "Christian Caesar" – as opposed to the "pagan Caesar" – in the Middle Ages it began to be invoked by pregnant women to wish a physiological birth, for the success of the expulsion of the baby from the uterus and, therefore, for their salvation and that of the unborn. The practice continues, in fact, the martyr Caesarius is invoked by the future mothers who, due to health problems or that of the baby, must give birth to their child by caesarean section.[152] Fictional 15th-century depiction of the birth of Julius Caesar The origin of the term is not definitively known. Roman Lex Regia (royal law), later the Lex Caesarea (imperial law), of Numa Pompilius (715–673 BC),[153] required the child of a mother who had died during childbirth to be cut from her womb.[154] There was a cultural taboo that mothers should not be buried pregnant,[155] that may have reflected a way of saving some fetuses. Roman practice required a living mother to be in her tenth month of pregnancy before resorting to the procedure, reflecting the knowledge that she could not survive the delivery.[156] Speculations that the Roman dictator Julius Caesar was born by the method now known as C-section are false.[157] Although caesarean sections were performed in Roman times, no classical source records a mother surviving such a delivery, while Caesar's mother lived for years after his birth.[154][158] As late as the 12th century, scholar and physician Maimonides expresses doubt over the possibility of a woman's surviving this procedure and again becoming pregnant.[159] The term has also been explained as deriving from the verb caedere, 'to cut', with children delivered this way referred to as caesones. Pliny the Elder refers to a certain Julius Caesar (an ancestor of the famous Roman statesman) as ab utero caeso, 'cut from the womb' giving this as an explanation for the cognomen Caesar which was then carried by his descendants.[154] Nonetheless, the false etymology has been widely repeated until recently. For example, the first (1888) and second (1989) editions of the Oxford English Dictionary say that caesarean birth "was done in the case of Julius Cæsar".[160] More recent dictionaries are more diffident: the online edition of the OED (2021) mentions "the traditional belief that Julius Cæsar was delivered this way",[161] and Merriam-Webster's Collegiate Dictionary (2003) says "from the legendary association of such a delivery with the Roman cognomen Caesar".[162] The word Caesar, meaning either Julius Caesar or an emperor in general, is also borrowed or calqued in the name of the procedure in many other languages in Europe and beyond.[163] Finally, the Roman praenomen (given name) Caeso was said to be given to children who were born via C-section. While this was probably just folk etymology made popular by Pliny the Elder, it was well known by the time the term came into common use.[164] See also: American and British English spelling differences The term caesarean is spelled in various accepted ways, as discussed at Wiktionary. The Medical Subject Headings (MeSH) of the United States National Library of Medicine (NLM) uses cesarean section,[165] while some other American medical works, e.g. Saunders Comprehensive Veterinary Dictionary, use caesarean,[166] as do most British works. The online versions of the US-published Merriam-Webster Dictionary[167] and American Heritage Dictionary[166] list cesarean first and other spellings as "variants". In re A.C., 573 A.2d 1235 (1990), was a District of Columbia Court of Appeals case. It was the first American appellate court case decided against a forced Caesarean section, although the decision was issued after the fatal procedure was performed.[168] Physicians performed a Caesarean section upon patient Angela Carder (née Stoner) without informed consent in an unsuccessful attempt to save the life of her baby.[169] The case stands as a landmark in United States case law establishing the rights of informed consent and bodily integrity for pregnant women. In Illinois, In re Baby Boy Doe, 632 N.E.2d 326 (Ill. App. Ct. 1994) was a court case holding that courts may not balance whatever rights a fetus may have against the rights of a competent woman, whose choice to refuse medical treatment as invasive as a Cesarean section must be honored even if the choice may be harmful to the fetus. Pemberton v. Tallahassee Memorial Regional Center, 66 F. Supp. 2d 1247 (N.D. Fla. 1999), is a case in the United States regarding reproductive rights. Pemberton had a previous Caesarean section (vertical incision), and with her second child attempted to have a VBAC (vaginal birth after c-section).[170] When a doctor she had approached about a related issue at the Tallahassee Memorial Regional Center found out, he and the hospital sued to force her to get a c-section. The court held that the rights of the fetus at or near birth outweighed the rights of Pemberton to determine her own medical care.[171][172] She was physically forced to stop laboring, and taken to the hospital, where a c-section was performed.[170] Her suit against the hospital was dismissed.[170] The court held that a cesarean section at the end of a full-term pregnancy was here deemed to be medically necessary by doctors to avoid a substantial risk that the fetus would die during delivery due to uterine rupture, a risk of 4–6% according to the hospital's doctors and 2% according to Pemberton's doctors. Furthermore, the court held that a state's interest in preserving the life of an unborn child outweighed the mother's constitutional interest in bodily integrity.[173] The court held that Roe v. Wade was not applicable, because bearing an unwanted child is a greater intrusion on the mother's constitutional interests than undergoing a cesarean section to deliver a child that the mother affirmatively desires to deliver. The court further distinguished In re A.C. by stating that it left open the possibility that a non-consenting patient's interest would yield to a more compelling countervailing interest in an "extremely rare and truly exceptional case." The court then held this case to be such.[170][174] See also: Men's role in childbirth In many hospitals, the mother's partner is encouraged to attend the surgery to support her and share the experience.[175] While traditionally there has been an opaque surgical drape obstructing the parents' view, some patients and doctors are opting for a "gentle C-section" using a clear drape, allowing the parents to watch the delivery and see their infant immediately.[176] In Judaism, there is a dispute among the poskim (Rabbinic authorities) as to whether the first-born son from a caesarean section has the laws of a bechor.[177] Traditionally, a male child delivered by caesarean is not eligible for the Pidyon HaBen dedication ritual.[178][179] In rare cases, caesarean sections can be used to remove a dead fetus; otherwise, the woman has to labour and deliver a baby known to be a stillbirth. A late-term abortion using caesarean section procedures is termed a hysterotomy abortion and is very rarely performed.[180] The mother may perform a caesarean section on herself; there have been successful cases, such as Inés Ramírez Pérez of Mexico who, on 5 March 2000, took this action. She survived, as did her son, Orlando Ruiz Ramírez.[181][182][183] In 2024, a female western lowland gorilla had a successful cesarean section after zoo veterinarians diagnosed her with pre-eclampsia. The premature gorilla infant survived, as a result of similar methods used with human infants.[184]

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Sydney Morning Herald. 1 June 2004. Archived from the original on 18 July 2010. Retrieved 4 November 2010. ^ Molina-Sosa A, Galvan-Espinosa H, Gabriel-Guzman J, Valle RF (March 2004). "Self-inflicted cesarean section with maternal and fetal survival". International Journal of Gynaecology and Obstetrics. 84 (3): 287–290. doi:10.1016/j.ijgo.2003.08.018. PMID 15001385. S2CID 38220990. ^ Szabó A, Brockington I (February 2014). "Auto-Caesarean section: a review of 22 cases". Archives of Women's Mental Health. 17 (1): 79–83. doi:10.1007/s00737-013-0398-z. PMID 24318749. S2CID 10641064. ^ Yousef N (17 February 2024). "Texas zoo delivers baby gorilla via caesarean section". BBC News. Retrieved 18 February 2024. Caesarean section at Wikipedia's sister projects Definitions from WiktionaryMedia from CommonsData from Wikidata Retrieved from " It is important you know how to exercise after a C-section and when you should start. It is also vital you are aware of what activities, movements and sports you can do, and which ones you must avoid after childbirth. Before you leave hospital, your treating health care professional (doctor, midwife) should give you information on exercises that will help you recover from your c-section. The problem is that I know this only occurs in about 10% of the cases. Or, maybe less. I work closely with a number of OB.GYNs. And they are experts in what they do but postpartum exercise is not generally one. And fair enough. Midwives are not prenatal or postpartum exercise experts. But hopefully they should recommend someone who is an expert as your postpartum recovery involves participating in an appropriate program. Having a C Section is a Major Surgery Please do not underestimate the physiological trauma your body has undergone, and don't let anyone make you feel like it's no big deal or an easy ride. During surgery, the surgeon makes a horizontal incision just above the pubic bone, through five layers of skin, tissue, and muscle to reach the uterus, the amniotic sac, and your baby. These layers include: The derma, or outer layer of skin, fat, fascia, the rectus abdominal muscle and peritoneum. A transverse or side-to-side cut is more common, as this results in less scarring and chance of infection or complications. A vertical cut is usually now used only in emergency situations and can be slower to heal, with more scarring. C Section Recovery Week by Week Scar Tissue If you have had a C Section, there will be scar tissue. This is where the connective tissue is laying down and binding, to repair and heal. The process can result in tightness or pulling sensation around your scar. What Does This Do to Your Belly? Layers of tissue are cut and then sewn back together, which creates scarring through multiple levels of tissue of your abdominal wall. This scarring affects the muscle's ability to glide over the top of each other during muscle contraction. The result is weakness and a lack of stabilization. If you have had more than one C Section, then your abdomen may not have repaired completely before your body went through the whole process of pregnancy and surgery again. As a result, if you return too fast to exercising after a c section then you can cause some serious harm. If you participated in a regular prenatal fitness training program which had a focus on core strengthening; then you will be starting with stronger abdominal muscles will help with recovery. By strengthening the deep muscles of your core and pelvic floor during pregnancy will give you the 'muscle memory' to make it easier to do the exercises after the birth. Does Massage Help Scar Tissue? Yes, but the right type of massage. Massage can help relieve this and aid comfort and healing. What you need to do is to rub and massage the skin gently between your fingers around the scar. This will aid in the break down of the scar tissue. Can Exercise After a C-Section Help with a Speedier Recover? I know first-hand that participating in a postpartum exercise program will help you recover after childbirth, make you stronger and improve your mood. Regular exercise after you've had a baby will strengthen and tone your muscles and raise your energy levels so you feel less tired. Of course, it will get you back on track to losing baby weight and feeling fit again. And how soon you're ready to start exercising depends on your individual circumstances. But please, dedicate some time right now to looking after your health and wellbeing. Core strength training or weight loss should not be a goal until you have fully healed and recovered. Once given the all clear, you should try to start moving when you are able to get out of bed. Your first goal is to start with gentle walking as this will help you recover from your surgery. What if You Had Complications? If you had any complications during pregnancy or birth, or you have any medical problems, your doctor or physiotherapist will advise you what exercises after a c-section you can or cannot do. Do Pelvic floor Exercises after a C-section Help? Yes. If you participated in my online program, then you would have been doing your pelvic floor exercises every week. And this should be paying off right now as you have strengthened your pelvic floor muscles. After your c-section, you can start to exercise your pelvic floor once your catheter has been removed and as soon as you feel ready. The primary purpose of these exercises is to help strengthen the muscles that support your womb, bowels and bladder. This may help you manage any problems with leaking urine. Abdominal Exercises after a C-section The right core exercises will help to strengthen the muscles in your abdomen. This will help you to protect your spine and have good posture. Please avoid any planking or those dangerous old traditional sit-ups. Yes, I still see some trainers online getting their clients doing these. But they will only do you more harm so please avoid them. The type of exercise after a c-section is what matters most. You do not want to jump straight back into a rigorous training program. Your body is healing and recovering postpartum so you need to respect that. You can start 'relaxation sessions' right away and then a fitness plan that consists of appropriate postpartum exercises and movements. But avoid any ballistic exercises or movements that cause damage to your healing stomach. The Importance of Core Exercises You need your core for many daily movements including pulling, pushing, standing up, sitting, moving, twisting, bending or turning. Your core is connected to the muscles of your pelvic floor. And as you know a strong pelvic floor will help to prevent you from wetting yourself or having a prolapse. When Can I Start? If you are not sure, then wait until you've had your 8 or 12 week postnatal check with your GP before commencing a more intensive fitness program. And to be honest, for your first 12 weeks you should only participate in safe gentle exercises. Going hard too soon must be avoided. Avoid any high-impact exercises, such as aerobics, running and resistance or weight training. Once you have recovered from your c-section and no longer have any pain, it is usually safe to start low-impact exercises, such as swimming, postpartum Pilates, yoga, light jogging and low resistance gym work. Watch Out for Diastasis Recti Before you do any exercise, check for diastasis recti. This is when your abdominal muscles separate. It happens to every pregnant woman. However, for some women, these muscles do not merge back together as quickly which will impact on how and when you exercise postpartum. Care must be taken to work those muscles to avoid widening the gap further. There are exercises you can do to handle it, and you shouldn't do any other abdominal exercises until you do the ones that can help diastasis recti go away. Can I Exercise in the First Six Weeks after C Section During this life-changing period as a new mama, you will be experiencing a lot of emotions and post pregnancy body changes. During this period, you should not be doing any high-impact intensive exercise. You should be focusing on your breathing and re-connecting your your tummy and your pelvic floor. Exercise as you once knew it is different now. So the answer to this question is that you should not participate in any vigorous exercise and you must know what exercises to avoid. But once your core has healed, you can start with some appropriate, safe postpartum exercises. The problem I have found is that most new mamas do not know what these exercises are. This is why I created my Core Rehab for Mamas program. Exercises To Avoid You should avoid planks, crunches, sit-ups, twisting movements, and push-ups in the first twelve weeks after starting to exercise again. It is vital that you only start exercising once your core has healed from the surgery. And when there is no clear sign of diastasis recti or any pressure on the abdomen when doing core work. I want you to avoid curling the front of your body as this only encourages further separation of the abdominals (increasing diastasis recti) and it will prevent you from properly recovering. You need to build-up your core stability before progressing to more challenging abdominal or core exercises. Core Exercises to Avoid Include: 1. Planks 2. Twisting movements that put strain on abdominal tissues 3. Lifting heavy objects 4. Push-ups on a flat ground 5. Jumping 6. Leg raises 7. Sit-ups This is Me. I want to show you how I looked at 12 weeks pregnant and then again 10 weeks postpartum. Scroll down a little further and you will see me each week of my first 7 weeks after childbirth. How To Get Rid Of Hanging Belly After C-Section What about that c-section pooch? How can I get that flat stomach after a C-section? What can I do to get rid of my preggie belly? Are these the questions you are asking? You're not alone. First I want you to understand why you have this belly post-birth. Then, I have listed some positive lifestyle habits you can start to 'action' that will help you to get rid of that hanging belly after a c-section. I wrote a really informative post titled 'Why Do I Still Look Pregnant' which I want you to read so you can understand why you continue to look pregnant well after childbirth. Every mama gets this after a c-section. The frustrating part for you may be that you find yourself stuck with these 'tummy shelves' for a good while others will be slim and return to their pre-pregnancy belly quite quickly. Genetics, leftover scar tissue development all play a role in how you recover. What I want you to do is not compare yourself to others. Forget the 'Yummy Mummy' guilt trips put on us by various media and people. This is why our PregActive family is there to support every woman throughout their recovery and encouraged to avoid the outside noise. This is Me during My 7 Weeks Postpartum Recovery Is there an Exercise After C-Section To Reduce Tummy? Why do so many new mamas search for tips for reducing belly fat after a C-section? I want you to be kind to yourself. You have brought new life into the world and your body has changed dramatically throughout pregnancy and also now after childbirth. I do get it why you may want to reduce your tummy or belly fat. What I want you to do is accept that it will take time and you need to do it the right way. Doing the wrong exercises will only cause more harm, increase your ab separation, and delay your recovery. Here are some tips to help you get started. It's about making the right lifestyle choices, setting realistic goals and progressing slowly. For you, if you follow these tips, your belly pouch will go away or at least subside to the degree that makes you more comfortable with your body. There are other options you can discuss with your doctor if you require further assistance. 1. Get Moving by Walking As I have already mentioned, when you have a C-section the surgeon cuts through some of your stomach muscles which can result in a pouch of fat on your tummy. What this can do to your body is to cause stress on your abdominal muscles and Pelvic floor. So, first heal and recover before you start exercising. When you can, I recommend that you get moving by walking. 2. Massage May Help Once approved, you can safely get a post-pregnancy massage from a qualified therapist. Massage may help break-up belly fat and to help lose fluids from the lymph nodes, thereby reducing your waistline. But please don't think that massage will just work in getting rid of your belly fat. Make sure that during your recovery the therapist avoids the abdominal area and focuses only on the back, hands, and legs. A qualified therapist will know what they can and can't do. 3. Drink Lots of Water and Fluids Drinking water will help to maintain the fluid balance in your body and also burn the excess fat around your waist. You need to stay hydrated! 4. Start Eating Healthy Foods Eating healthy as a new mama starts by making sure your diet is rich in carbohydrates, low in fat and loaded with the required vitamins and minerals. Eat more fruits, vegetables and lean protein. Avoid sweets, high saturated, fried foods and soda (soft) drinks. 5. Breastfeeding Did you know that breastfeeding burns approximately 500 extra calories a day? And that it also releases the oxytocin hormone that stimulates uterine contractions, and helps your uterus get back to its pre-pregnancy size. The American Pregnancy Association says breastfeeding burns off as many calories as 45 to 60-minute run! 6. Get Adequate Sleep I know, you just laughed at the suggestion you get sleep with a new born who is demanding your attention all hours of the day. I want you to aim for at least 5-6 hours of sleep. Just do your best during this difficult time. Can I Do Yoga to Reduce Tummy Fat? Yes, when the time is right (6-8 weeks after delivery), you can practice yoga after a C-section to reduce tummy fat. I love yoga and I have been teaching it for the past fifteen years. Yoga helps to tone and strengthen the stomach muscles. It can also help you to deal with stress and changes. But there are many moves and poses that involve twisting, bending backwards that must be avoided. When Can I Start Doing Crunches After C-Section? The quick answer to this is 'You have to wait until your core is healed!' I never advise crunches until I can see no clear sign of diastasis recti or any pressure on the abdomen when doing core work. This can be anywhere from eight to 12 weeks after being cleared to workout from your doctor. If you return to exercising too quickly you can cause an opening of the incision and other complex medical problems. Heal - Recover - then you can start working out! Can I Do Squats After C-Section? How soon you can do squats after giving birth is highly individualized. When i say squats, I don't mean squats in the gym using a barbell. I'm referring to body-weight squats. Again, there is no one answer for all as you will be ready to do squats once your core has healed. When Can I Start Walking After C-Section? Your doctor will want to get you up walking as soon as you can. They will not want you to be bed-ridden for a long period of time due to the risk of clotting. So walking will start soon after childbirth. With regards to walking to get fit; it starts when you're home and you start to take baby for a walk in the pram (pusher). Start slowly and increase the distance progressively. After 6 to 8 weeks, you will still be healing inside so this is when your walking speed and distance can increase. Please stop if there is any discomfort, pain or a pulling sensation on your scar and try again a couple of weeks later. What are Some Low-risk Exercises for Mamas? The following exercises are suitable once you have healed your body: 1. Postpartum yoga 2. Pilates 3. Walking 4. Swimming and aqua aerobics (once the bleeding has stopped) 5. Low-impact aerobics 6. Light weight training 7. Cycling Performing core exercises are beneficial following a cesarean delivery. But ONLY once your body has healed which could be anywhere up to 12 weeks post pregnancy. Immediately after birth, start with walking, your pelvic floor exercises and gentle movement.