

Fetal Development: Baby's Bones and Skeletal System

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Your baby's bones start developing soon after conception and don't finish growing until she's an adult! Learn how your baby's skeleton forms and get tips to ensure they stay strong.

It might be hard to believe when you're being jabbed from the inside by a pointy elbow or when a pointy little bottom is pushing on your bladder, but your baby's bones don't just grow in fully-developed. They are very much formed by what both of you eat. The skeletal structure that will one day support your baby's whole body starts out as flexible cartilage that gradually ossifies (or becomes hard bone) as your little one absorbs more calcium from you during your pregnancy — and then from the foods he eats well beyond (try 20 years beyond!).

Here's a month-by-month look at how that tiny, squishy tadpole becomes a bona-fide baby.

Month 1: The Embryo Develops Three Layers

Soon after conception, the embryo differentiates into three layers of cells. The mesoderm, or middle layer, will develop into your baby's bones – as well as her heart muscles, kidneys and sex organs. The inner layer (called the endoderm) becomes your baby's digestive system, liver and lungs. And the ectoderm, or outer layer, develops into the nervous system, hair, skin and eyes.

Big changes are happening to your little embryo. It's starting to develop a clavicle and parts of a backbone, for starters, while the neural tube forms – the source for parts of the nervous system as well as the spine and skull. By about [week 6](#), your little bean is also sprouting arm buds as the legs follow suit. About the only thing that isn't growing is its tadpole-like tail; that's shrinking and will eventually disappear — leaving only the tailbone at the base of the spine.

Month 3: Face, Nose, Fingers and Toes

During these final weeks of your [first trimester](#), your [baby's bones develop a lot](#). They start out as little buds and grow into recognizable arms and legs, with bendable joints and well-defined fingers and toes by about [week 13](#). Upper limbs tend to lead the way by a few days, with lower ones following — the same way [motor skills](#) develop after your baby is born, from the top of the body down (lifting head, then pushing up, then crawling, then walking).

Month 4: Mom's Supplying Baby Tons of Calcium

Via the placenta, your body is now delivering [calcium](#) to your baby to help her bones harden, strengthen and lengthen. This calcium transfer continues up until birth — she needs to absorb about 30 grams of this important mineral from you over the course of nine months to build the 300+ bones that make up baby's skeleton. So make sure you're consuming plenty – about 1,000 milligrams (or 1 gram) of calcium a day helps your baby's bones grow and safeguards your own (your body won't hesitate to deplete its own stores for your baby's sake, so make sure to replenish them regularly).

Check the ingredients of your [prenatal vitamin](#) to see how much calcium it includes, and make sure to chow down on foods rich in this important nutrient for bone development, like milk, soy milk, yogurt, cheese, canned salmon, leafy greens and edamame, along with plenty of [vitamin D](#) (salmon, canned tuna, eggs, mushrooms and fortified foods including cereal, milk and orange juice) to help your body absorb it. Also ask your doc whether you should take additional calcium supplements.

Months 5 and 6: Baby's Moving Her Limbs

These are active months for bone-building. Your baby can now wiggle his limbs — you may begin to feel those [first flutters of fetal movement](#) sometime around [week 18](#) (give or take a few weeks). If you get a peek at your baby during your [week 20 ultrasound](#), you'll now be able to see those bones he's busy building — they're finally visible.

Months 7 and 8: Transforming Cartilage to Bone

How are you doing on that calcium consumption? Keep downing those dairy products, because the majority of the calcium your baby gets from you is transferred during the [third trimester](#) — about 250 milligrams a day! She's busy transforming cartilage to bone as well as developing muscle and building up a nice protective layer of fat.

Month 9: Baby's Bones Remain Soft

At [week 36](#), mother-baby calcium transfer peaks, with you passing along as many as 350 milligrams of the mineral every day for the remainder of your pregnancy. That's the case even though your baby's bones are still softer than an adult's. They have to be, so they can fit through the birth canal around [week 40](#) and allow room for growth once baby is born. Your baby's skull, in particular, is designed for delivery: it's made up of several separate bony plates that can shift and compress as your baby's head makes its way toward the exit.

Your Newborn Baby

As she grows taller and stronger, her bones will too — they are living parts of her body, after all! This includes her skull: It usually takes two to four months for the front "[soft spot](#)" (or fontanel) to close and up to 18 months or more for the back fontanel to close. This allows baby's skull to expand and keep pace with her rapidly-growing brain. And even after the soft spots close, there will still be some room along the sutures (the seams between the bones of the skull).

While the bones begin to fuse together by the time she's about 2 or 3 years old, the process won't be fully complete until after she's an adult to allow her brain (and her whole head!) room to grow.

What can you do to help ensure the process goes smoothly? Continue to take your prenatal vitamin for you and your baby while you breastfeed (babies get all the calcium they need from breast milk and formula, though they need [vitamin D supplements](#) if they're exclusively breastfed) — but when you switch your toddler to table food, [keep the calcium coming](#) well through high school and beyond for lifelong healthy bones.

More on Pregnancy

- [Week-By-Week Pregnancy Calendar](#)
- [8 Calcium-Rich Foods and the Best Ways to Eat Them](#)
- [7 Foods High in Vitamin D and How to Eat Them](#)

From the What to Expect editorial team and [Heidi Murkoff](#), author of *What to Expect When You're Expecting*. Health information on this site is based on peer-reviewed medical journals and highly respected health organizations and institutions including [ACOG](#) (American College of Obstetricians and Gynecologists), [CDC](#) (Centers for Disease Control and Prevention) and [AAP](#) (American Academy of Pediatrics), as well as the *What to Expect* books by Heidi Murkoff.

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