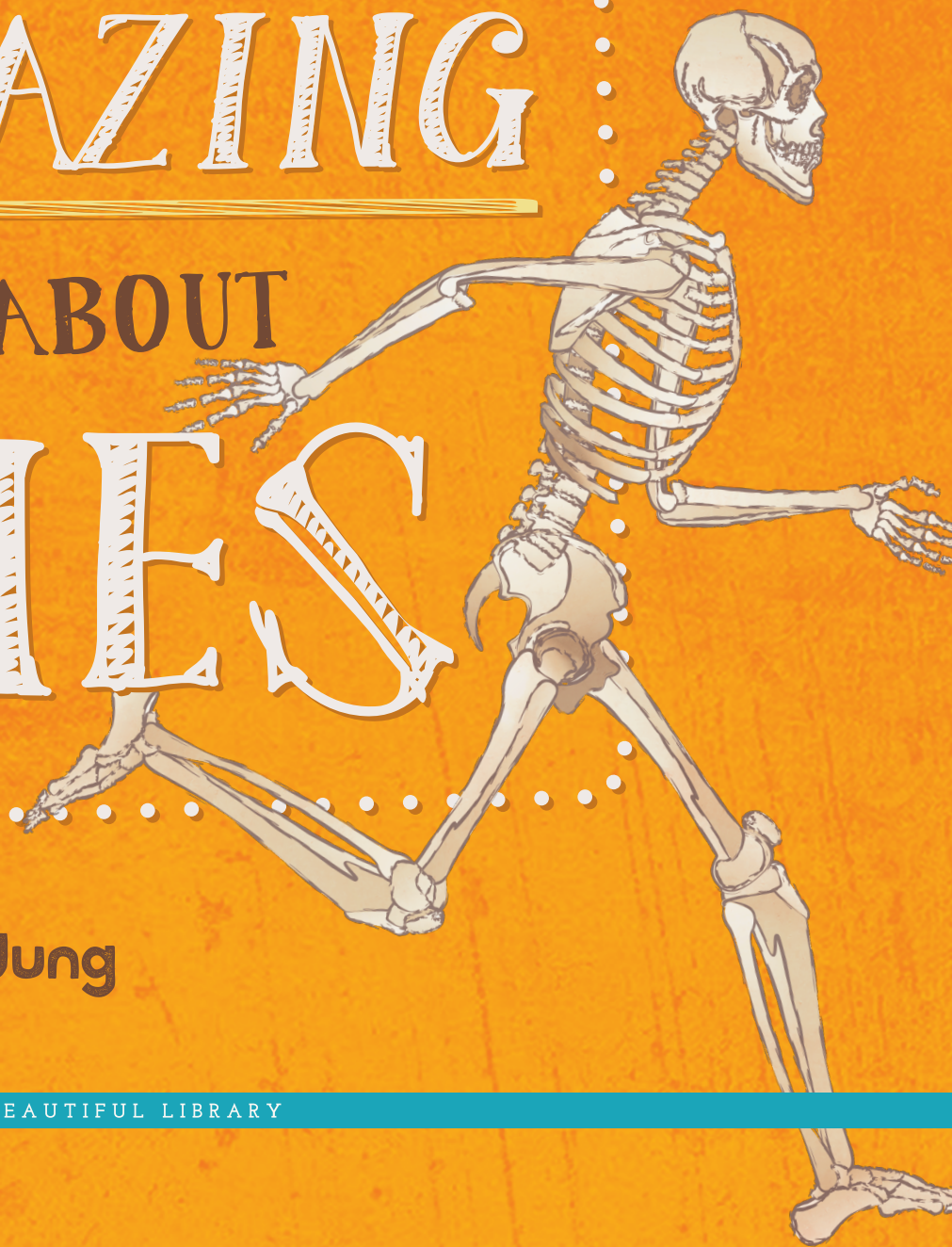


50

AMAZING

FACTS ABOUT

BONES



Jessica Jung



THE GOOD AND THE BEAUTIFUL LIBRARY

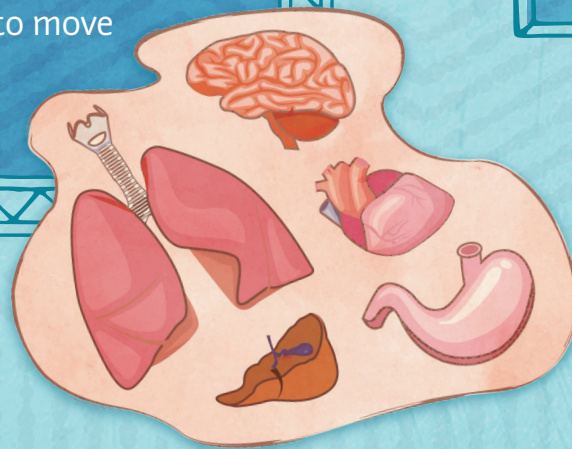
FACT 01

Bones are alive! They grow, strengthen, and—amazingly—can even repair themselves!



FACT 03

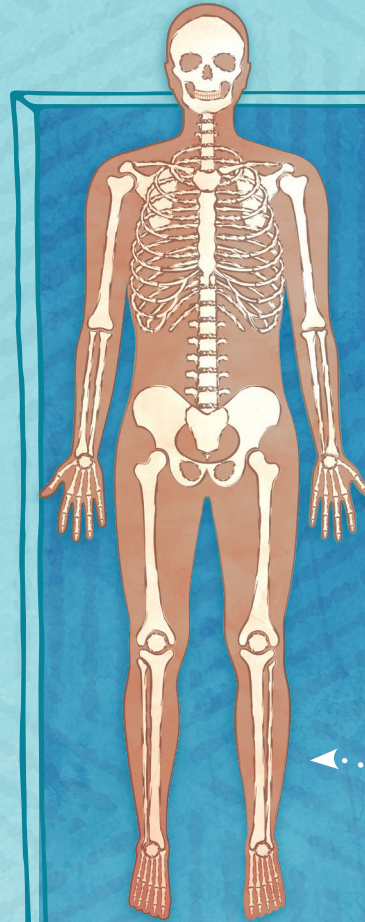
Without bones you would be a squishy, shapeless blob of skin and organs, resting helplessly on the floor, unable to move or walk about.



FACT 02

The human *skeletal system* is made up of bones that provide

- 1 a framework of support,
- 2 protection for our delicate internal organs, and
- 3 the ability to move our bodies.



SKELETAL SYSTEM

BONE — BASICS



FACT 08

Did you wake up taller today? It's possible! Your bones do most of their growing at night while you're sleeping.



FACT 09

The location where new bone growth forms is called a growth plate, or **epiphyseal** [ep-uh-FIZ-ee-uhl] **plate**. It is made of cartilage and is found toward the ends of the long bones in your arms, legs, hands, and feet. This growth plate will permanently “close” once you’ve reached your full height, usually around the age of 15 for girls and 16 for boys. How much more growth do you still have?

X-RAY OF A
CHILD'S KNEES

EPIPHYSEAL
PLATES

Made of cartilage,
your bones'
epiphyseal plates
will close once you
have grown to your
full height.

CLOSED
EPIPHYSEAL
PLATES IN AN
ADULT BONE

X-RAY OF AN ADULT ARM SHOWING A FRACTURED BONE

FACT 44

There are many different types of bone breaks, also called *fractures*. An *X-ray* can help a doctor determine if a bone is broken and show the type of break it is by taking a picture that goes through your skin down to your bones!

BONE BREAKS

FACT 45

Sometimes a broken bone can be moved back into place by a doctor, and a stiff *cast* will be worn to keep the bone in position to allow it to heal straight. Not all broken bones can be placed in casts, however. Broken toes, ribs, or collarbones are examples of bones that may have to heal by themselves. Sometimes a broken toe will be taped to a neighboring toe, while a broken finger may be put in a special soft cast called a *splint*. Other times surgery may be required for severe breaks, such as a shattered bone. Pins can be placed around the fracture to hold the bone in place while it heals.



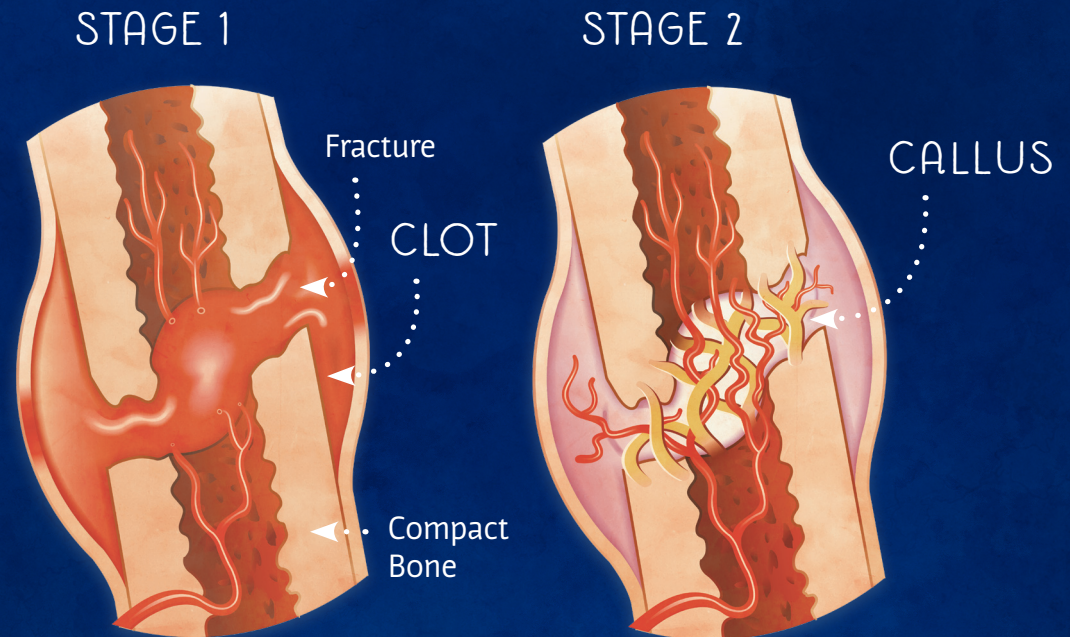
PINS HOLDING A FRACTURED BONE IN PLACE



BROKEN ARM SET IN A CAST

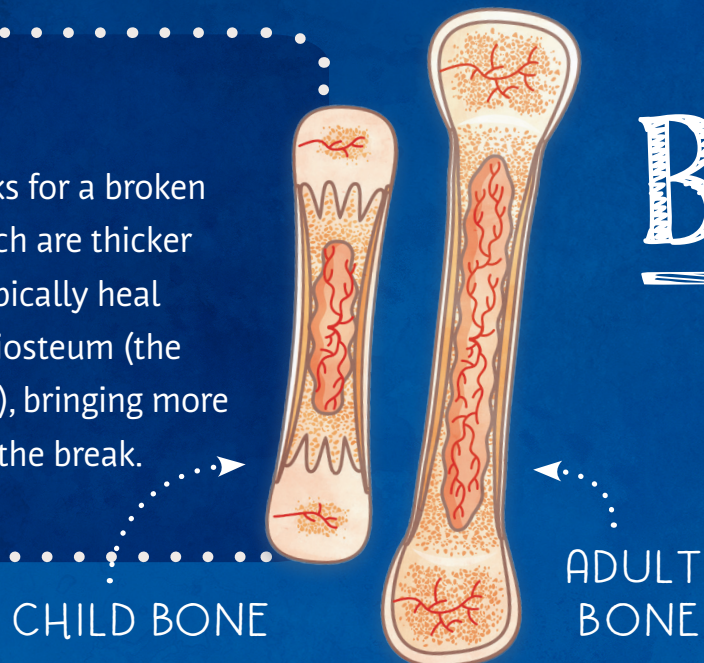
FACT 48

Because our bones are alive, they heal on their own using a very unique process. At first, blood rushes to the broken area to form a **clot**. Next, special bone-making cells called **osteoblasts** surround the break and begin to form a network of fibers called a **callus**. The callus is rough and bumpy at first, but it eventually dissolves and smooths out as new bone and blood vessels form to close the gap.



FACT 49

It takes anywhere from 3 to 12 weeks for a broken bone to heal. Children's bones, which are thicker and stronger than adults' bones, typically heal faster. Children also have more periosteum (the outermost vascular layer of a bone), bringing more nutrients and oxygen to the site of the break.



BONE — HEALING

50 AMAZING FACTS ABOUT BONES

50 Amazing Facts About Bones is a comprehensive text about bone anatomy and physiology. Full of illustrations, diagrams, sketches, and X-ray images, this book is thorough enough to engage a curious first-time bone explorer and enrich a student's current skeletal study. Learn all about bone basics, growth, structure, movement, composition, and healing as you take a look at the incredible human skeleton.



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BONE LAYERS

Epiphyseal Line
(marking a closed epiphyseal plate)

3

CANCELLOUS BONE

2

COMPACT BONE

4

BONE MARROW

1

PERIOSTEUM

Cartilage

ISBN 978-1-957561-04-2
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