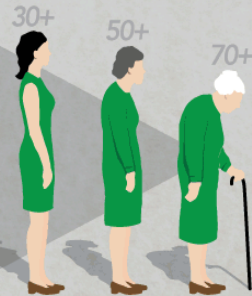


# BONE & JOINT HEALTH



Women are  
**4x**  
more likely to have  
**poor bone health.**



With osteoporosis, bones in the spine become thin and collapse causing a person to hunch over.

## Maintaining healthy bones and joints requires proper nutrition.

Bones are living cells that continually break down and build new bone. Proper nutrition is essential to keeping your bones and joints healthy.



### Calcium

- Vital for bone health
- 99% of all calcium in your body is in your bones
- Helps bones resist compression forces
- Best sources of calcium: dairy, kale, broccoli, fish



### Vitamin D

- Helps in the absorption of calcium
- Your body produces vitamin D when stimulated by sunlight
- Found in cod liver oil, salmon, eggs and enriched milk products



### Omega 3 & Fatty acids

- Anti-inflammatory properties can treat conditions that cause joint inflammation
- Found in salmon, tuna, halibut



### Limit Sugar

- Soda and sports drinks high in sugars are associated with a decrease in bone mineral density
- Sugar can also lead to weight gain and loss of calcium

## Bone & Joint Disorders



### OSTEOPOROSIS

A group of diseases characterized by a reduction in bone mass when production of new bone cannot keep up with the loss of old bone.



### RHEUMATOID ARTHRITIS

The body's immune system attacks its own tissue, usually at the joints, believing the tissue to be a foreign invader.



### BURSITIS

The fluid-filled cushions among the muscles and tendons – called bursae – become inflamed, causing swelling and discomfort on and around the affected area of the joints.



### PAGET'S DISEASE OF THE BONE

A condition that involves atypical bone destruction and regrowth, which eventually results in bone deformity.

Osteoporosis affects nearly 44 million Americans (Mostly women).



Arthritis and joint pain are the top reasons cited for visits to physicians in the US.

Extreme dieting or exercise at a young age can contribute to premature Osteoporosis. Bone tissue wear and low bone mass increases the risk for fractures.

Osteoporosis can also develop from a traumatic injury. Nerve damage and lack of blood flow can keep bones from regenerating properly.

Smokers can take nearly fifty percent longer to heal after foot or ankle surgery, and in some cases, their bones failed to heal at all.

## Treatments

### Non-Surgical



#### Bracing

Since muscles weaken over time, a brace can provide support and lessen pain.

#### Prolotherapy - Joint Rejuvenation

Injecting dextrose sugar solution into joints to regrow cartilage and strengthen weakened connective tissue.

#### Medication

Non-steroidal anti-inflammatory drugs (NSAIDS) control inflammation and relieve pain.

#### Physical Therapy

A physical therapist can identify the cause of joint pain and provide effective intervention for pain relief.

#### Stem Cell Procedure

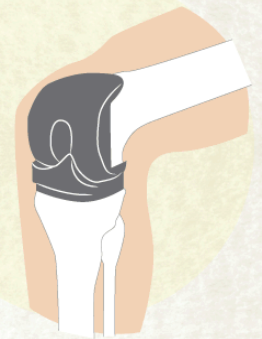
Uses patients own cells to help repair damaged cartilage, bone and tissue.

#### Casting

In most cases bone fractures and broken bones can be fixed with casting, but a little pulling and tugging is required to achieve improved alignment.

### Surgery

Non-surgical treatments are always utilized first; surgery is the last resort, but is often required.



#### Joint Replacement Surgery

The dysfunctional joint surface is replaced with an artificial joint, called an orthopedic prosthesis. As of 2009, about 773,000 Americans have a hip or knee replaced each year.

#### When to get a total replacement?

- pain causes sleeplessness
- pain makes daily activity difficult
- arthritis limits normal activity

#### Partial Knee Replacement

Minimally invasive to treat localized arthritis. Has a quicker recovery time than full knee replacement.

#### Arthroscopy

A minimally invasive outpatient surgical procedure. Patients usually recover within days instead of weeks.