

Arthritis Exercise Benefits & Precautions Plus Home Exercise and Nutrition Guide

This is the second book on home exercise and fitness guides. This book includes an extra chapter on Osteoarthritis, Rheumatoid arthritis and Osteopenia, including exercise benefits and precautions. It has been proven that exercise and nutrition are two of the main factors that you can control for a healthy lifestyle. Many people do not know how to start or progress an exercise program. There are hundreds of pictures for beginner, intermediate and advanced exercise programs, as well as a list of equipment that you can use in the home.

This book is for:

- Those with a diagnosis of Osteoporosis, Osteoarthritis or Rheumatoid arthritis
- The beginner who has never exercised before
- The individual that has mastered the basics but wants to know how to advance to the next level.
- Pre/post rehab individuals who would like to advance or want a list of exercise programs to follow.
- The personal trainer, physical therapist, or other coaches who would like their client to have a list of exercises that can be progressed.

This book is not for or may need modification:

- Chronic or acute disorders/injury's that is not being followed by a health care professional. This book can be used in conjunction with a rehab program.
- If you are over 40 and have never exercised before, it is advised that a physician clears you first.
- Undiagnosed pain
- The person that does not feel they can safely modify their individual program, although can be used in conjunction with rehab or coaches/personal trainers.
- People with the following issues that have been cleared by an MD for an exercise program or in conjunction with rehab. These issues will be addressed in future volumes: Cardiopulmonary, Cancer, Diabetes and more.

What is covered in this book?

- Arthritis Type, Affected Joints, Definition, Disease Characteristics, Increased Risks, Prevention, Exercise Tips, Modify Discontinue Exercise and Nutrition for Arthritis with Food Charts.
- Home Exercise Programs – pictures and explanations
 - Myofascial release
 - Flexibility – Stretching
 - Core Stability
 - Balance with progression to Standing Strengthening exercises
 - Strengthening
 - Lower extremity - Lying and Seated
 - Upper extremity
- Benefits and Factors to consider before starting an exercise program
- Vital signs and how to monitor exercise intensity
- Temperature – Heat and Cold
- Dehydration
- Anatomy – Anatomical Positions and Directions
- Muscles/Joint actions, Skeleton/Range of Motion
- Equipment needed for home exercise
- Warm up/cool down
- Duration, Frequency, Intensity and Primary Movement Patterns
- Nutrition
 - Protein, Amino Acids, Fats
 - Carbohydrates, sugars, glycogen, glycemic index
 - Vitamins and Minerals

Arthritis

Fitness and Nutrition

Benefits and Precautions for Exercising with Arthritis

Starting an exercise program with arthritis or pre-arthritis can be different than for an otherwise healthy adult. This supplement to the *Home Exercise and Nutrition Guide* will explain the benefits of starting an exercise program, but also some precautions or things you should not do. This will also cover some diets and foods to eat or not eat to help decrease inflammation.

- **Osteopenia** - Reduced bone mass of lesser severity than osteoporosis.
- **Osteoporosis** - A medical condition in which the bones become brittle and fragile from loss of tissue, typically as a result of hormonal changes, or deficiency of calcium or vitamin D.
- **Osteoarthritis** - Degeneration of joint cartilage and the underlying bone, most common from middle age onward. It causes pain and stiffness, especially in the hip, knee, and thumb joints.
- **Rheumatoid arthritis** - A chronic progressive disease that causes inflammation in the joints, resulting in painful deformity and immobility, especially in the fingers, wrists, feet, and ankles.

Exercise information is from: ACE – *Fitness Professionals Guide to Training Clients with Osteoarthritis* / Mayo Clinic / WebMD / National Institute of Arthritis and Musculoskeletal and Skin Diseases (NISM) / National Osteoporosis Foundation (AF) / American College of Sports Medicine (ACSM) / Association of Rheumatology Health Professionals (ARHP) / MedicineNet.com

Nutrition information is from: Arthritis Foundation / Chewfo / US News / Mayo Clinic / David Perlmutter / Celiac Disease Foundation / Dr. Weil

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Types, Commonly Affected Joints & Definitions		
Osteoporosis	Osteoarthritis (OA)	Rheumatoid Arthritis (RA)
TYPES		
Bone Density	Local, Degenerative	Inflammatory, Systemic, Autoimmune
COMMONLY AFFECTED JOINTS		
Hip Wrist Spine Ribs	Hands Knees Hips Spine	Wrists Hands Knees Feet Cervical spine
DEFINITION		
Osteopenia	<ul style="list-style-type: none"> Osteopenia is a condition of bone that is slightly less dense than normal bone, but not to the degree of bone in osteoporosis. Your bones are usually at their densest when you're about 30. Osteopenia, if it happens at all, usually occurs after age 50. The exact age depends how strong your bones are when you're young. If they're hardy, you may never get osteopenia. If your bones aren't naturally dense, you may get it earlier. 	
Osteoporosis	<ul style="list-style-type: none"> Osteoporosis is a condition characterized by a decrease in the density of bone, decreasing its strength and resulting in fragile bones. Osteoporosis literally leads to abnormally porous bone that is compressible, like a sponge. This disorder of the skeleton weakens the bone and results in frequent fractures (breaks) in the bones. Bones that are affected by osteoporosis can break (fracture) with relatively minor injury that normally would not cause a bone to fracture. The fracture can be either in the form of cracking (as in a hip fracture) or collapsing (as in a compression fracture of the vertebrae of the spine). The spine, hips, ribs, and wrists are common areas of bone fractures from osteoporosis although osteoporosis-related fractures can occur in almost any skeletal bone. 	

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Osteoarthritis (OA)	<ul style="list-style-type: none">• Osteoarthritis likely begins with the breakdown of articular cartilage, a tough material that cushions and protects the bone ends.• Cartilage allows bones to smoothly glide over one another and effectively absorb the shock of physical movement.• With OA, cartilage becomes damaged and ineffective, leaving the bones to rub against one another during movement. This process may be stimulated by high circulating levels of pro-inflammatory cytokines and other inflammatory cells.• Friction in the joint causes pain, swelling, and decreased range of motion. • Sometimes small deposits of bone, known as osteophytes, start to grow at the edge of the joint. If these osteophytes break off and float into the joint space, they can cause more pain and damage.
Rheumatoid Arthritis (RA)	<ul style="list-style-type: none">• Rheumatoid arthritis is an inflammatory disease that causes pain, swelling, stiffness, and loss of function in the joints.• The body's immune system essentially turns against itself.• RA typically occurs in a symmetrical pattern. For example, when one knee or hand is involved, the other one is also involved.• The disease often affects the wrist and finger joints closest to the hand. Other body parts and systems can also be affected. (<i>National Institute of Arthritis and Musculoskeletal and Skin Diseases (NISM)</i>)• Inflammation in the synovium causes changes in the joint as well as ligament laxity and loss of strength.

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Disease Characteristics		
Osteoporosis	Osteoarthritis (OA)	Rheumatoid Arthritis (RA)
<p>There typically are no symptoms in the early stages of bone loss. But once your bones have been weakened by osteoporosis, you may have signs and symptoms that include:</p> <ul style="list-style-type: none"> • Back pain, caused by a fractured or collapsed vertebra • Loss of height over time • A stooped posture • A bone fracture that occurs much more easily than expected <p><i>(Mayo Clinic)</i></p>	<ul style="list-style-type: none"> • Onset older age • Joint pain, swelling and stiffness after periods of inactivity or excessive use • Morning stiffness lasts less than 30 minutes • Cartilage degeneration • Grating or 'catching' sensation during joint movement • Joint instability and buckling (knee) • Bony growths at the margins of affected joint (osteophytes / bone spurs) • Loss of mechanical integrity of the joint • No visible joint changes can be seen in the spine, knee, or hip • Spurring and enlargement of finger joints (proximal and distal interphalangeal joints or PIP and DIP) can become visible • In OA of the foot, the metatarsal phalangeal (MTP) joints drop down and the fat pad slips, causing hammer toes. This may affect shoe selection and ability to do weight-bearing exercise. 	<ul style="list-style-type: none"> • Onset younger age • Gradual or rapid onset of symptoms/pain • Morning stiffness over 30 minutes to several hours • Worse pain in the morning and at end of day • Primarily affects synovium and may include internal organs • Typically, small joints of hands and wrist symmetrically with ulnar deviation • "Crippling" arthritis • Red, swollen, warm, tender joints • Fatigue, fever, loss of energy, malaise • May have rheumatoid nodules • Acute & chronic inflammation and pain • Loss of joint integrity

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Risks		
Osteoporosis	Osteoarthritis (OA)	Rheumatoid Arthritis (RA)
<ul style="list-style-type: none"> • Women more than men • Age. Increases as we age. • Race: White or of Asian descent • Family History. • Small body frames have higher risks <p>Hormones</p> <ul style="list-style-type: none"> • Sex hormones. Reduced estrogen in menopausal women. • Men with a gradual reduction in testosterone levels. • Thyroid problems –increased. • Overactive parathyroid and adrenal glands. <p>Dietary factors</p> <ul style="list-style-type: none"> • Low calcium intake • Decreased weight or food intake. • Gastrointestinal surgery. <p>Steroids and other medications used to combat or prevent:</p> <ul style="list-style-type: none"> • Seizures • Gastric reflux • Cancer • Transplant rejection <p>Medical conditions</p> <ul style="list-style-type: none"> • Celiac disease • Inflammatory bowel disease • Kidney or liver disease • Cancer • Lupus • Multiple myeloma • Rheumatoid arthritis <p>Lifestyle choices</p> <ul style="list-style-type: none"> • Sedentary lifestyle. • Excessive alcohol consumption • Tobacco use. 	<ul style="list-style-type: none"> • Increasing age • Family History • Injury or overuse • Old joint, injuries/surgeries • Aging athletes • Muscle weakness • Impaired proprioception can lead to the loss of protective muscular reflexes. Reflex inhibition is a response to pain and joint effusion (swelling). • High bone mass • Disuse– Moderate physical activity decreases OA risk. • Overweight/Obesity– increases the mechanical load on weight bearing joints. 	<ul style="list-style-type: none"> • Family History • Smoking. Some studies show it also can make it progress faster and lead to more joint damage. • Obesity. You also may be able to lower your chances by losing weight, especially if you're 55 or younger. • Research shows there may be a link between RA and periodontal (gum) disease. Brush / floss and see your dentist for regular checkups. <p style="text-align: right;"><i>(Web MD)</i></p>

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Prevention		
Osteoporosis	Osteoarthritis (OA)	Rheumatoid Arthritis (RA)
<ul style="list-style-type: none"> • Protein: Building blocks of bone. • Body weight: Being underweight increases the chance of bone loss and fractures. Excess weight is known to increase the risk of fractures in your arm and wrist. Maintaining an appropriate body weight is good for bones. • Calcium. Men and women between the ages of 18 and 50 need 1,000 milligrams of calcium a day. This daily amount increases to 1,200 milligrams when women turn 50 and men turn 70. • Vitamin D improves your body's ability to absorb calcium and improves bone health in other ways. People may get adequate amounts of vitamin D from sunlight. Scientists don't yet know the optimal daily dose of vitamin D for each person. A good starting point for adults is 600 to 800 international units (IU) a day, through food or supplements. • Exercise. Combine strength training, weight-bearing, and balance exercises. Strength training helps strengthen muscles and bones in your arms and upper spine. Weight-bearing exercises such as walking, jogging, running, stair climbing, skipping rope, skiing, and impact-producing sports affect mainly the bones in your legs, hips, and lower spine. Balance exercises such as tai chi can reduce your risk of falling. • **Swimming, cycling, and exercising on machines such as elliptical trainers can provide a good cardiovascular workout, but they're not as helpful for improving bone health. <p><i>(Mayo clinic)</i></p>	<ul style="list-style-type: none"> • <i>See Osteoporosis</i> • Moderate physical activity actually decreases OA risk. <p>Weight loss.</p> <ul style="list-style-type: none"> • For every one pound of weight lost, there is a 4 lb. reduction in the load exerted on the knee for each step taken during daily activities. • Losing as few as 11 pounds can cut the risk of developing knee OA by 50% for some women. • Weight loss of only 15 lbs. can cut knee pain in half for overweight individuals with arthritis. 	<ul style="list-style-type: none"> • There's no known way to prevent RA, but scientists are studying DNA markers that show that someone will develop it. • New research has shown that there is a narrow window of opportunity for early treatment that can literally stop the disease in its tracks. • Timely diagnosis and treatment can prevent the progression of RA and the associated joint destruction. <i>(Fitness professional guide)</i> <p>*** "Ideally, you should begin treatment within 3 to 6 months of your first symptoms".</p> <p><i>(Web MD)</i></p>

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Exercise Tips

Osteoporosis	Osteoarthritis (OA) & Rheumatoid Arthritis (RA)
<p>High-impact weight-bearing exercises may not be safe for you if you have a higher chance of breaking a bone. Talk to your doctor about your workout routine. They may recommend that you focus on low- impact exercises that are less likely to cause fractures and still build up your bone density.</p> <p>These include:</p> <ul style="list-style-type: none"> • Elliptical training machines • Low-impact aerobics • Stair-step machines • Walking (either outside or on a treadmill machine) <p>Making exercise for osteoporosis safe to ensure your safety during exercise for osteoporosis, keep these guidelines in mind:</p> <ul style="list-style-type: none"> • If you already have osteoporosis, be careful of exercises that involve bending and twisting at the waist. This motion can put you at risk of fracture. • Exercises that involve waist twisting include sit-ups, toe touches, and rowing machines. Golf, tennis, bowling, and some yoga poses also include some twisting at the waist. • Talk to your doctor before choosing any of these activities. 	<ul style="list-style-type: none"> • Acute (symptoms less than 7 days) <ul style="list-style-type: none"> ○ Focus on maintaining flexibility only. ○ Do exercise daily during this phase to prevent loss of motion and contractures (muscle / tendon tightening that prevents normal movement). • Sub-acute (symptoms lasting 1-6 weeks) <ul style="list-style-type: none"> ○ Work on maintaining/increasing flexibility and strength. ○ Some cardiovascular activity can be done. • Chronic (symptoms lasting longer than 6 weeks) <ul style="list-style-type: none"> ○ Focus on progressive strengthening and increase cardiovascular fitness. • Exercise daily when pain and stiffness are the least (when medications have the greatest effect and/or energy is highest). • Perform gentle ROM exercises for the affected joint(s) in both the morning (before rising) and evening to reduce stiffness. • Include all planes of movement around the affected joint and adjacent joints. • Avoid overexertion and extreme ranges of joint flexion or extension. • Modify as needed – for example, replace the Long Arc Quad (LAQ) with the Partial Arc Quad (PAQ) to decrease ROM.

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Modify or Discontinue Exercise

Osteoporosis	Osteoarthritis (OA) & Rheumatoid Arthritis (RA)
<ul style="list-style-type: none">• If you have osteoporosis, don't do the following types of exercises:• High-impact exercises. Activities such as jumping, running or jogging• Avoid jerky, rapid movements in general. Choose exercises with slow, controlled movements.• Bending and twisting. Exercises in which you bend forward at the waist and twist your waist, such as touching your toes or doing sit-ups, can increase your risk of compression fractures in your spine if you have osteoporosis.• Other activities that may require you to bend or twist forcefully at the waist are golf, tennis, bowling, and some yoga poses. <p><i>(Mayo clinic)</i></p>	<ul style="list-style-type: none">• Joint pain/discomfort during the exercise or continuing pain (pain that lasts more than 2 hours after exercising and/or exceeds pain severity before exercise)• Respect pain—use it as a ‘warning’ sign. “No pain, no gain” is not true with arthritis.• Increased joint swelling/tightness immediately after or the day following activity• Decreased range of motion• Increased weakness• Altered gait following participation in a weight-bearing activity• Unusual or persistent fatigue

Osteoporosis

Exercise Types

(See sections in book for specific terms and explanations)

Mayo Clinic / WebMD / MedicineNet.com / National Osteoporosis Foundation

Flexibility Non-Impact and Balance	Weight Bearing / Aerobic
<ul style="list-style-type: none"> • Fall prevention is especially important for people with osteoporosis. Stability and balance exercises help your muscles work together in a way that keeps you more stable and less likely to fall. Simple exercises such as standing on one leg or movement-based exercises such as tai chi can improve your stability and balance. • These moves don't directly strengthen your bones. They can, though, improve your coordination, flexibility, and muscle strength. That will lower the chance that you'll fall and break a bone. You can do these every day. • Balance exercises such as Tai Chi can strengthen your leg muscles and help you stay steadier on your feet. Posture exercises can help you work against the "sloping" shoulders that can happen with osteoporosis and lower your chances of spine fractures. • Routines such as yoga and Pilates can improve strength, balance, and flexibility. • **Some of the moves you do in these programs, including forward-bending exercises, can make you more likely to get a fracture. 	<ul style="list-style-type: none"> • Weight-bearing aerobic activities involve doing aerobic exercise on your feet, with your bones supporting your weight. These types of exercise work directly on the bones in your legs, hips and lower spine to slow mineral loss. They also provide cardiovascular benefits, which boost heart and circulatory system health. • It's important that aerobic activities, as beneficial as they are for your overall health, are not the whole of your exercise program. • Swimming and cycling have many benefits, but they don't provide the weight-bearing load your bones need to slow mineral loss. However, if you enjoy these activities, do them. <p>There are two types of weight-bearing exercise: high-impact and low-impact. High impact includes workouts like:</p> <ul style="list-style-type: none"> • Brisk walking • Climbing stairs • Dancing • Hiking • Jogging • Jumping rope • Step aerobics • Tennis or other racquet sports • Yard work, like pushing a lawnmower or heavy gardening <p>But be careful. High-impact weight-bearing exercises may not be safe for you if you have a higher chance of breaking a bone. Talk to your doctor about your workout routine. They may recommend that you focus on low-impact exercises that are less likely to cause fractures and still build up your bone density. These include:</p> <ul style="list-style-type: none"> • Elliptical training machines • Low-impact aerobics • Stair-step machines • Walking (either outside or on a treadmill machine) <p>**If you're new to exercise or haven't worked out for a while, you should aim to gradually increase the amount you do until you get to 30 minutes of weight-bearing exercise per day on most days of the week.</p>

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Flexibility	Resistance Exercises
<ul style="list-style-type: none">• Moving your joints through their full range of motion helps you keep your muscles working well.• Stretches are best performed after your muscles are warmed up at the end of your exercise session, for example, or after a 10-minute warm-up. They should be done gently and slowly, without bouncing.• Avoid stretches that flex your spine or cause you to bend at the waist. Ask your doctor which stretching exercises are best for you. <p>Examples of flexibility exercise for osteoporosis include:</p> <ul style="list-style-type: none">• Stretches• Tai chi• Yoga	<p>Resistance means you're working against the weight of another object. Resistance helps with osteoporosis because it strengthens muscle and builds bone.</p> <p>Studies have shown that resistance exercise increases bone density and reduces the risk of fractures.</p> <p>Resistance exercise for osteoporosis includes:</p> <ul style="list-style-type: none">• Free weights or weight machines at home or in the gym• Resistance tubing that comes in a variety of strengths• Water exercises

Osteoarthritis (OA) & Rheumatoid Arthritis (RA)

Exercise Types

(See sections in book for specific terms and explanations)

Information by Arthritis Foundation (AF) / American College of Sports Medicine (ACSM) / Association of Rheumatology Health Professionals (ARHP)

Flexibility & Balance	Strengthening / Resistance
<p>Flexibility:</p> <ul style="list-style-type: none"> Joint motion may be maintained by performing active range of motion exercises through the entire range, 3-5 times daily. Move slowly and gently through full ROM, but <i>not</i> past the point of usual pain/discomfort. Reduce the number of repetitions with active inflammation and avoid overstretching. Move the affected joint GENTLY. Use a slow, steady rhythm and do not bounce. Adapt by using self-assisted techniques (wand or pulley) to perform gentle ROM or stretching. A warm environment promotes elasticity. <p>Balance:</p> <ul style="list-style-type: none"> The pain, stiffness, joint instability, and muscular weakness associated with OA can alter proprioception and prevent efficient, controlled and integrated movement. Stiff and painful movements require more energy and increase fatigue. Include static and dynamic balance by introducing progressive balance challenges: <ul style="list-style-type: none"> Progression from double limb to single limb stance activities tiptoe walking, retro walking, and lateral walking. <p>Use equipment with unsteady surfaces: rocker boards, balance discs, BOSU balls, foam cushions and rolls</p>	<ul style="list-style-type: none"> Start with isometric or low load exercises. Gradually transition to isotonic/dynamic exercises and functional movements. Resistance level should first be determined by the response of the joint and <i>not</i> muscle fatigue. Although it is ideal to perform an exercise through the complete range of motion, it may be necessary to perform a certain strength exercise in a more limited range of motion to avoid joint pain. If you can handle more challenging exercises in joints <i>not</i> affected by OA, adapt the program accordingly. <p>Progression guidelines:</p> <ul style="list-style-type: none"> Ensure that you can easily perform an exercise correctly during at least 2 consecutive workouts. Increase resistance by no more than 10% each week. Don't change too many things at a time; if you experience joint symptoms, you'll know what may have caused the problem. Review posture, alignment, and body mechanics. The joint being exercised should be in line with the equipment fulcrum or biomechanical stresses may increase on an unstable/misaligned joint. Watch your neck/spine position, particularly during abdominal work. Keep in neutral. <p>Don't forget about the hands/grasp and thumb/fingers involvement.</p>

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Isometric and Isotonic	Aerobic
<p>Isometric: Isometric strengthening is appropriate for those deconditioned or with joint pain during isotonic or dynamic movement. Isometric exercise allows you to strengthen the muscle without moving the joint, minimize atrophy, maintain/increase static strength/ endurance, and improve tone to prepare for dynamic and weight-bearing activity.</p> <ul style="list-style-type: none"> • Perform each exercise at multiple angles throughout the range to simulate function. • Intensity: Good quality contraction of the muscle (moderate to hard intensity) • Frequency: Start with 5-10 reps daily. Proceed to 3 x 15 reps. • Duration: Hold isometric contractions 5-10 seconds. <p>Isotonic (<i>Strengthening / Resistance above</i>): Dynamic or isotonic exercises maintain/increase muscle power and endurance, simulate functional movements, enhance synovial blood flow and promote strength of bone and cartilage.</p> <ul style="list-style-type: none"> • Intensity: Start w/ light resistance (10% 1 RM) and progress to light to moderate resistance (40-60% 1 RM) • 1 x 10; 2 x 10; 3 x 10; 3 x 15 •Frequency: 2 - 3 times per week on alternate days • Duration: 15–30 min. Progress by first increasing repetitions (10-15 reps/exercise), then increase weight by 10% week or to pain tolerance. • Use lower resistance bands/weights to decrease stress on joint and adjust equipment for good biomechanics • Put weights more proximal (closer) to the joint to decrease lever arm. • **Typical quad exercises such as full ROM knee extensions may exacerbate symptoms and contribute to further degeneration of the joint. <p>Modify as needed – for example, replace the Long Arc Quad (LAQ) with the Partial Arc Quad (PAQ) to decrease ROM.</p>	<p>Aerobic exercise is an integral part of an exercise program for individuals with osteoarthritis and is associated with the following benefits:</p> <ul style="list-style-type: none"> • Improved cardiovascular function • Increased muscular strength and flexibility • Improved physical and social activity levels • Reduced fatigue • Decreased depression and anxiety • Decreased pain • Decreased or unchanged disease activity <p>Modes of aerobic exercise that work particularly well for individuals with OA include:</p> <ul style="list-style-type: none"> • Walking • Bicycling • Swimming or water exercise • Low impact aerobics/chair exercise <p>Intensity</p> <ul style="list-style-type: none"> • For individuals who have not exercised in over 3 months/deconditioned, start at 40-60% Heart Rate Reserve (HRR/Karvonen – see <i>How to Monitor HR</i>) • For patients at average levels of fitness >60% HRR is appropriate. More fit individuals can tolerate higher intensity levels depending upon joint mode and the presence of joint symptoms. <p>Duration</p> <ul style="list-style-type: none"> • The initial phase should consist of short bouts (5-10 minutes). • Progress to 20-30 minutes above daily activity (150 min./week of moderate intensity) to increase fitness level. • individuals may tolerate more daily exercise by breaking it up into multiple bouts. For example, a 30-minute walk may produce knee discomfort or swelling. Two 15-minute walks may be tolerated without symptoms. • Focus on duration before intensity. <p>Frequency</p> <ul style="list-style-type: none"> • 3–5 days/week–individualize based on fitness and joint response (provided the person is not in the acute phase).

Arthritis and Nutrition

The following information is from the Arthritis Foundation by Amy Patural

THE ULTIMATE ARTHRITIS DIET

<p>Is there an arthritis diet?</p>	<p>One of the most common questions people with any form of arthritis have is, "Is there an arthritis diet?" Or more to the point, "What can I eat to help my joints?" The answer, fortunately, is that many foods can help.</p> <ul style="list-style-type: none"> • Following a diet low in processed foods and saturated fat and rich in fruits, vegetables, fish, nuts, and beans is great for your body. • If this advice looks familiar, it's because these are the principles of the so-called Mediterranean diet, which is frequently touted for its anti-aging, disease-fighting powers.
<p>Benefits</p>	<p>Studies confirm eating these foods can do the following:</p> <ul style="list-style-type: none"> • Lower blood pressure • Protect against chronic conditions ranging from cancer to stroke • Help arthritis by curbing inflammation • Benefit your joints as well as your heart • Lead to weight loss, which makes a huge difference in managing joint pain.
<p>Should You Avoid Nightshade</p>	<ul style="list-style-type: none"> • Nightshade vegetables, including eggplant, tomatoes, red bell peppers and potatoes, are disease-fighting powerhouses that boast maximum nutrition for minimal calories. • They also contain solanine, a chemical that has been branded the culprit in arthritis pain. There's no scientific evidence to suggest that nightshades trigger arthritis flares. In fact, some experts believe these vegetables contain a potent nutrient mix that helps inhibit arthritis pain. • However, many people do report significant symptom relief when they avoid nightshade vegetables. So, doctors say, if you notice that your arthritis pain flares after eating them, do a test and try eliminating all nightshade vegetables from your diet for a few weeks to see if it makes a difference.
<p>See Other Charts Below</p>	<ul style="list-style-type: none"> • Information provided by the Arthritis Foundation in chart form based on <i>The Ultimate Arthritis Diet</i> by Amy Patural • Anti-inflammatory Diet based on information by Dr. Weil • Gluten Free Diet based on research from the Mayo Clinic, David Perlmutter and the Celiac Disease Foundation • Mediterranean Diet based on information by Chewfo and US News

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The Ultimate Arthritis Diet - Arthritis Foundation

Foods to Eat	How Much	Why	Best Sources
Fish	Health authorities like <i>The American Heart Association</i> and <i>the Academy of Nutrition and Dietetics</i> recommend three to four ounces of fish, twice a week. Arthritis experts claim more is better.	<p>Some types of fish are good sources of inflammation-fighting omega-3 fatty acids. A study of 727 postmenopausal women, published in the <i>Journal of Nutrition</i> in 2004, found those who had the highest consumption of omega-3s had lower levels of two inflammatory proteins: C-reactive protein (CRP) and interleukin-6.</p> <p>More recently, researchers have shown that taking fish oil supplements helps reduce joint swelling and pain, duration of morning stiffness and disease activity among people who have rheumatoid arthritis (RA).</p>	<p>Salmon Tuna Sardines Herring Anchovies Scallops Other cold-water fish.</p> <p>Supplement. Studies show that taking 600 to 1,000 mg of fish oil daily eases joint stiffness, tenderness, pain and swelling.</p>
Nuts & Seeds	Eat 1.5 ounces of nuts daily (one ounce is about one handful).	<p>Multiple studies confirm the role of nuts in an anti-inflammatory diet," explains José M. Ordovás, PhD, director of nutrition and genomics at the Jean Mayer USDA Human Nutrition Research Center on Aging at Tufts University in Boston.</p> <p>A study published in <i>The American Journal of Clinical Nutrition</i> in 2011 found that over a 15-year period, men and women who consumed the most nuts had a 51 percent lower risk of dying from an inflammatory disease (like RA) compared with those who ate the fewest nuts. Another study, published in the journal <i>Circulation</i> in 2001 found that subjects with lower levels of vitamin B6 – found in most nuts – had higher levels of inflammatory markers.</p> <p>More good news: Nuts are jam-packed with inflammation-fighting monounsaturated fat. And though they're relatively high in fat and calories, studies show noshing on nuts promotes weight loss because their protein, fiber and monounsaturated fats are satiating. "Just keep in mind that more is not always better," says Ordovás.</p>	<p>Walnuts Pine nuts Pistachios Almonds</p>
Fruits & Veggies	Aim for nine or more servings daily (one serving = 1 cup of most veggies or fruit or 2 cups raw leafy greens).	<p>Fruits and vegetables are loaded with antioxidants. These potent chemicals act as the body's natural defense system, helping to neutralize unstable molecules called free radicals that can damage cells.</p> <p>Research has shown that anthocyanins found in cherries and other red and purple fruits like strawberries, raspberries, blueberries, and blackberries have an anti-inflammatory effect. Citrus fruits – like oranges, grapefruits and limes – are rich in vitamin C. Research shows getting the right amount of that vitamin aids in preventing inflammatory arthritis and maintaining healthy joints.</p> <p>Other research suggests eating vitamin K-rich veggies like broccoli, spinach, lettuce, kale and cabbage dramatically reduces inflammatory markers in the blood.</p>	<p>Colorful fruits and veggies – the darker or more brilliant the color, the more antioxidants it has, including</p> <p>Blueberries Cherries Spinach Kale Broccoli</p>

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Foods to Eat	How Much	Why	Best Sources
Olive Oil	Two to three tablespoons daily	Olive oil is loaded with heart-healthy fats, as well as oleocanthal, which has properties similar to nonsteroidal, anti-inflammatory drugs. "This compound inhibits activity of COX enzymes, with a pharmacological action similar to ibuprofen," says Ordovás. Inhibiting these enzymes dampens the body's inflammatory processes and reduces pain sensitivity.	<p>Extra virgin olive oil goes through less refining and processing, so it retains more nutrients than standard varieties.</p> <p>Avocado and safflower oils have shown cholesterol-lowering properties.</p> <p>Walnut oil has 10 times the omega-3s that olive oil has.</p>
Beans	About one cup, twice a week (or more)	<p>Beans are loaded with fiber and phytonutrients, which help lower CRP, an indicator of inflammation found in the blood. At high levels, CRP could indicate anything from an infection to RA. In a study published in <i>The Journal of Food Composition and Analysis</i> in 2012, scientists analyzed the nutrient content of 10 common bean varieties and identified a host of antioxidant and anti-inflammatory compounds.</p> <p>Beans are also an excellent and inexpensive source of protein, with about 15 grams per cup, which is important for muscle health</p>	<p>Small red beans Red kidney beans Pinto beans</p> <p>These rank among the U.S. Department of Agriculture's top four antioxidant-containing foods (wild blueberries being in the number 2 spot)</p>
Whole Grains	<p>Eat a total of 6 ounces of grains per day; at least 3 of which should come from whole grains.</p> <p>One ounce of whole grain would be equal to ½ cup cooked brown rice or 1 slice of whole-wheat bread.</p>	Whole grains contain plenty of filling fiber – which can help you maintain a healthy weight. Some studies have also shown that fiber and fiber-rich foods can lower blood levels of the inflammatory marker C-reactive protein.	<p>Eat foods made with the entire grain kernel, like whole-wheat flour, oatmeal, bulgur, brown rice, and quinoa.</p> <p>Some people may need to be careful about which whole grains they eat due to: Gluten – a protein found in wheat and other grains that has been linked to inflammation for some people.</p> <p>See Gluten Diet</p>

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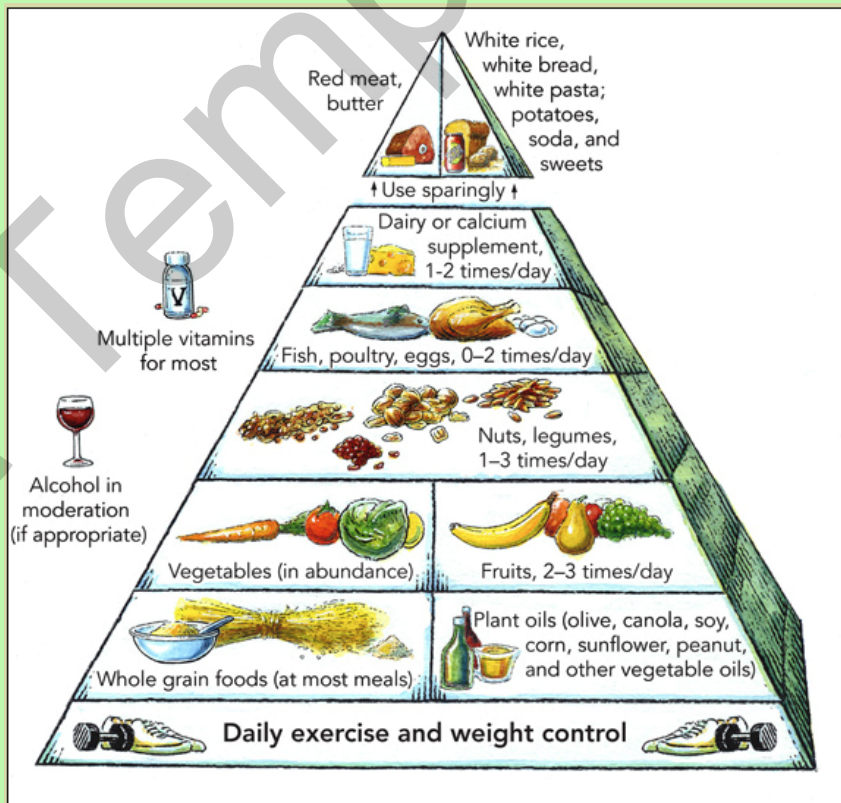
Anti-Inflammatory Diet	Foods to Eat	Foods to avoid	Questionable or Decrease Consumption
<p>(Dr. Weil diet)</p> <p>It is becoming increasingly clear that chronic inflammation is the root cause of many serious illnesses - including heart disease, many cancers, and Alzheimer's disease.</p> <p>We all know inflammation on the surface of the body as local redness, heat, swelling and pain. It is the cornerstone of the body's healing response, bringing more nourishment and more immune activity to a site of injury or infection. But when inflammation persists or serves no purpose, it damages the body and causes illness.</p> <p>Stress, lack of exercise, genetic predisposition, and exposure to toxins (like secondhand tobacco smoke) can all contribute to such chronic inflammation, but dietary choices play a big role as well.</p> <p>Learning how specific foods influence the inflammatory process is the best strategy for containing it and reducing long-term disease risks.</p> <p>(Dr. Weil)</p>	<p>Spices and herbs, including turmeric, cinnamon, curry, ginger, garlic, and chili peppers</p> <p>Choose organic fruits and vegetables from all parts of the color spectrum, especially berries, tomatoes, orange and yellow fruits, and dark leafy greens.</p> <p>Mushrooms</p> <p>Winter squashes, and sweet potatoes</p> <p>Cruciferous (cabbage-family) vegetables</p> <p>Beans in general and soybeans in particular. Become familiar with the range of whole-soy foods available and find ones you like.</p> <p>White, green or oolong tea</p> <p>Eat more whole grains such as brown rice and bulgur wheat, in which the grain is intact or in a few large pieces.</p> <p>Extra-virgin olive oil as a main cooking oil. If you want a neutral tasting oil, use expeller-pressed, organic canola oil. Organic, high-oleic, expeller pressed versions of sunflower and safflower oil are also acceptable.</p> <p>Avocados and nuts, especially walnuts, cashews, almonds, and nut butters made from these nuts.</p> <p>For omega-3 fatty acids, eat salmon (preferably fresh or frozen wild or canned sockeye), sardines packed in water or olive oil, herring, and black cod (sablefish, butterfish); omega-3 fortified eggs; hemp seeds and flaxseeds (preferably freshly ground); or take a fish oil supplement (look for products that provide both EPA and DHA, in a convenient daily dosage of two to three grams).</p>	<p>Flour and sugar, especially bread and most packaged snack foods (including chips and pretzels).</p> <p>High fructose corn syrup</p> <p>Butter, cream, high-fat cheese, unskinned chicken and fatty meats.</p> <p>Products made with palm kernel oil. Safflower and sunflower oils, corn oil, cottonseed oil, and mixed vegetable oils.</p> <p>Strictly avoid margarine, vegetable shortening, and all products listing them as ingredients.</p> <p>Strictly avoid all products made with partially hydrogenated oils of any kind.</p>	<p>Cook pasta al dente and eat it in moderation</p> <p>Animal protein</p> <p>High quality natural cheese and yogurt.</p> <p>Plain dark chocolate in moderation (with a minimum cocoa content of 70 percent).</p> <p>Alcohol (if you must, try red wine)</p>

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Gluten Free Diet	Foods to Eat	Foods to Avoid	Questionable or Decrease Consumption	Possible or Other Names to Avoid
<p>A gluten-free diet is a diet that excludes the protein gluten.</p> <p>Gluten is found in grains such as wheat, barley, rye, and a cross between wheat and rye called triticale.</p> <p><i>Mayo Clinic</i></p> <p><i>David Perlmutter</i></p> <p><i>Celiac Disease Foundation</i></p>	<p>Rice</p> <p>Cassava</p> <p>Corn (Maize)</p> <p>Soy</p> <p>Potato</p> <p>Tapioca</p> <p>Beans</p> <p>Sorghum</p> <p>Quinoa</p> <p>Millet</p> <p>Buckwheat</p> <p>Groats <i>(Also Known as Kasha)</i></p> <p>Arrowroot</p> <p>Amaranth</p> <p>Teff</p> <p>Flax</p> <p>Chia</p> <p>Yucca</p> <p>Gluten-Free Oats Nut Flours <i>(Celiac Disease Foundation)</i></p> <p>Beans, seeds and nuts in their natural, unprocessed form</p> <p>Fresh eggs</p> <p>Fresh meats, fish and poultry (not breaded, batter- coated or marinated)</p> <p>Fruits and vegetables</p> <p>Most dairy products <i>(Mayo Clinic)</i></p>	<p>Wheat</p> <p>Wheat germ</p> <p>Rye</p> <p>Barley</p> <p>Bulgur</p> <p>Couscous</p> <p>Farina</p> <p>Graham flour</p> <p>Kamut</p> <p>Matzo</p> <p>Semolina</p> <p>Spelt</p> <p>Triticale</p> <p>Durum flour <i>(David Perlmutter)</i></p>	<p>Malt/Malt Flavoring</p> <p>Soups</p> <p>Commercial Bullion and Broths</p> <p>Cold Cuts, Hot Dogs</p> <p>French Fries (Often Dusted with Flour Before Freezing)</p> <p>Processed Cheese (E.G., Velveeta)</p> <p>Mayonnaise</p> <p>Ketchup</p> <p>Malt Vinegar</p> <p>Soy Sauce And Teriyaki Sauces</p> <p>Salad Dressings</p> <p>Imitation Crab Meat, Bacon, Egg Substitute</p> <p>Tabbouleh</p> <p>Sausage</p> <p>Non-Dairy Creamer</p> <p>Fried Vegetables/Tempura</p> <p>Gravy</p> <p>Marinades</p> <p>Canned Baked Beans</p> <p>Cereals</p> <p>Commercially Prepared Chocolate Milk</p> <p>Breaded Foods</p> <p>Fruit Fillings and Puddings</p> <p>Ice Cream</p> <p>Root Beer</p> <p>Energy Bars, Trail Mix</p> <p>Syrups</p> <p>Seitan</p> <p>Wheatgrass</p> <p>Instant Hot Drinks</p> <p>Flavored Coffees and Teas</p> <p>Blue Cheeses</p> <p>Vodka, Wine Coolers</p> <p>Meatballs, Meatloaf</p> <p>Communion Wafers</p> <p>Veggie Burgers</p> <p>Roasted Nuts</p> <p>Beer</p> <p>Oats or Oat Bran (Unless Certified Gf) <i>(David Perlmutter)</i></p>	<p>Avena sativa</p> <p>Cyclodextrin</p> <p>Dextrin</p> <p>Fermented grain extract</p> <p>Hordeum distichon</p> <p>Hordeum vulgare</p> <p>Hydrolysate</p> <p>Hydrolyzed malt extract</p> <p>Hydrolyzed vegetable protein</p> <p>Maltodextrin</p> <p>Phytosphingosine extract</p> <p>Samino peptide complex</p> <p>Secale cereale</p> <p>Triticum aestivum</p> <p>Triticum vulgare</p> <p>Tocopherol/Vit. E</p> <p>Yeast extract</p> <p>Natural flavoring</p> <p>Brown rice syrup</p> <p>Modified food starch</p> <p>Hydrolyzed vegetable protein</p> <p>(HVP) Hydrolyzed Soy protein</p> <p>Caramel color (frequently made from barley)</p> <p><i>(David Perlmutter)</i></p>

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Mediterranean Diet	Foods to Eat	Foods to avoid	Questionable or Decrease Consumption
<p><i>Harvard School of Public Health, Oldways</i>, a nonprofit food think tank in Boston, developed a consumer-friendly Mediterranean diet pyramid that emphasizes fruits, veggies, whole grains, beans, nuts, legumes, olive oil and flavorful herbs and spices; eating fish and seafood at least a couple of times a week; enjoying poultry, eggs, cheese, and yogurt in moderation; and saving sweets and red meat for special occasions.</p> <p><i>Chewfo</i></p> <p><i>US News</i></p>	<ul style="list-style-type: none"> Fruits Vegetables Whole Grains Olive oil Beans Nuts Legumes Seeds Herbs Spices Seafood 	<ul style="list-style-type: none"> Sugar-sweetened beverages Added sugar Processed meat Refined grains Refined oils Highly processed foods Fast Foods 	<ul style="list-style-type: none"> Red Meat Salt Cheese and yogurt Milk Crème Poultry Eggs Sweeteners, such as honey Wine



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