

Arthritis Exercise Integration

MedFit Virtual Global
Conference 2020

Christine M. Conti, M.Ed., B.A.

Arthritis Exercise Integration

Importance

Many fitness professionals lack the knowledge to safely and effectively design fitness programs that specifically meet the needs of the arthritic population. Understanding the types of arthritis, symptoms that stem from the disease process, and mastering methods to improve muscle strength, range of motion, and flexibility, is paramount when working with this population. As the yearly number of people diagnosed with one or more types of arthritis increases, so does the demand for fitness professionals who have the skills and education to deliver quality and individualized fitness programming.

Arthritis Exercise Integration

Description

This workshop is designed to provide medical and fitness professionals an introduction to the tools needed to safely and effectively design and implement exercise programs for arthritic populations. Gain understanding of various types, symptoms, and causes of arthritis, as well as how it affects joints and organs in the body. Examine exercises to create safe and effective fitness programs that will improve range of motion, flexibility and strength, to expand the overall health and wellness for your clients. Improve the overall health and wellness for the arthritis community by exploring the benefits of safe and effective exercise for the arthritic client and learn about how to become an Arthritis Fitness Specialist.

Arthritis Exercise Integration

Objectives

- Learn the various types of arthritis and their causes
- Understand the symptoms of arthritis
- Analyze epidemiology of arthritis (US vs World)
- Describe the anatomy, biomechanics and function of common joints affected by arthritis.
- Understand treatment strategies in the management of arthritis: Mental vs. Physical
- Examine the healing process when treating dysfunction and pain
- Recognize the role of nutrition in as it relates to arthritis
- Demonstrate exercise progression in the treatment of arthritis

GUIDE TO RA

LIVING WITH RHEUMATOID ARTHRITIS

Live life to
the max—
despite RA!

- Tune in to your symptoms
- Refuse to accept limitations
- Find the treatment that takes you from good to great

"I'm showing
RA who

Healthmo



My name is
Christine Conti
&
I am an RA
Warrior!

"I see my RA diagnosis as a gift...it has given me insight to persevere...to inspire others...to celebrate what I can do, not dwell on what I cannot...one day I will not be able to do this, but today is not that day!"

Yes You Can!

-Christine Conti

Types of Arthritis

- **Osteoarthritis (Degenerative Arthritis)**
- **Inflammatory Arthritis**
 - **Rheumatoid**
 - **Psoriatic**
 - **Gout**
 - **Lupus**
 - **Juvenile Arthritis**
 - **Ankylosing Spondylitis**
 - **Septic Arthritis**

Osteoarthritis

Osteoarthritis, also known as degenerative arthritis, is the most common type of arthritis. When the cartilage – the slick, cushioning surface on the ends of bones – wears away, bone rubs against bone, causing pain, swelling and stiffness. Over time, joints can lose strength and pain may become chronic. Risk factors include excess weight, family history, age and previous injury (i.e., an anterior cruciate ligament, or ACL tear).

Inflammatory Arthritis

A healthy immune system is protective. It generates internal inflammation to get rid of infection and prevent disease. But with inflammatory types of arthritis, the immune system doesn't work properly and mistakenly attacks the joints with uncontrolled inflammation, potentially causing joint erosion.

Rheumatoid Arthritis

In a healthy person, the immune system fights invaders, such as bacteria and viruses. With an autoimmune disease like RA, the immune system mistakes the body's cells for foreign invaders and releases inflammatory chemicals that attack, in the case of RA, the synovium. That's the tissue lining around a joint that produces a fluid to help the joint move smoothly. The inflamed synovium gets thicker and makes the joint area feel painful and tender, look red and swollen and moving the joint may be difficult.

These symptoms are clues to RA:

- Joint pain, tenderness, swelling or stiffness that lasts for six weeks or longer.
- Morning stiffness that lasts for 30 minutes or longer.
- More than one joint is affected.
- Small joints (wrists, certain joints in the hands and feet) are typically affected first.
- The same joints on both sides of the body are affected.

Psoriatic Arthritis

Psoriatic arthritis is an inflammatory type of arthritis that primarily affects the skin and joints. Psoriatic arthritis (PsA) affects men and women equally, and it usually develops after age 30. Psoriasis and PsA both run in families; it is more common in Caucasians than in other races/ethnicities. The disease may begin in childhood.

Symptoms Include:

- Skin-** Itchy, painful red patches or a silvery white buildup of dead skin cells; most commonly on the knees, elbows and scalp, although a rash can occur anywhere on the body. It is not contagious.
- Joints/Spine-** Mainly occurs in the fingers (joints closest to the nail), wrists, ankles and knees. Symptoms such as pain, tenderness, warmth and swelling, may affect different sides of the body. Pain and stiffness in the low back, buttock can also occur. Sometimes the neck and hips are affected and this may be referred to as spondylitis or axial arthritis.

Gout

Gout causes sudden and severe joint pain that usually starts in the big toe, but other joints and areas around the joints can be affected, such as the ankle, knee and foot. It is the most common type of inflammatory arthritis. Men are 3x more likely than women to develop gout and affects men 40+ and women post-menopause.

Signs/Symptoms: Almost always occur suddenly, and at night.

- **Intense joint pain-** Gout usually affects the large joint of your big toe, but it can occur in any joint. Other commonly affected joints include the ankles, knees, elbows, wrists and fingers. The pain is likely to be most severe within the first four to 12 hours after it begins.

- **Lingering discomfort-** After the most severe pain subsides, some joint discomfort may last a few days or weeks.

Inflammation and redness- The affected joint or joints become swollen, tender, warm and red.

- **Limited range of motion-** As gout progresses, you may not be able to move your joints normally.

Lupus

Lupus may cause joint pain, fatigue and skin problems as well as affect internal organs. People of all ages, races and sexes can get lupus, but 9 out of 10 adults with the disease are women between the ages of 15 and 45. African American women are at the highest risk. The cause of lupus is unknown, but researchers think that people with certain genes are triggered by an external factor, such as stress, a viral infection, medication or regular exposure to chemicals such as silica or pesticides. Since lupus often strikes women during their childbearing years, hormones are believed to play a role.

Symptoms Include:

- Joint pain.
- Butterfly-shaped rash (on cheeks and nose).
- Fatigue.
- Mouth sores (often painless).
- Headaches.
- Light sensitivity (sunlight and artificial light).
- Chest pain or trouble breathing.

Juvenile Arthritis

According to the Arthritis Foundation, juvenile idiopathic arthritis and other pediatric rheumatic diseases affect nearly 300,000 kids and teens in the U.S. Juvenile arthritis (JA), also known as pediatric rheumatic disease, isn't a specific disease. It's an umbrella term to describe the inflammatory and rheumatic diseases that develop in children under the age of 16. Most kinds of JA are autoimmune or autoinflammatory diseases. The exact causes of JA are unknown, but researchers believe that certain genes may cause JA when activated by a virus, bacteria or other external factors. There is no evidence that foods, toxins, allergies or lack of vitamins cause the disease.

Symptoms Include:

*Joints- look red or swollen and feel stiff, painful, tender and warm. Skin- Skin symptoms may include a scaly red rash (psoriatic), light spotted pink rash (systemic), butterfly shaped rash across the bridge of the nose and cheeks (lupus) or thick, hardened patches of skin

(scleroderma). *

Eyes- Dryness, pain, redness, sensitivity to light and trouble seeing properly caused by uveitis chronic eye inflammation

*Internal Organs-Can affect internal organs such as the digestive tract (diarrhea and bloating), lungs (shortness of breath) and heart.

Ankylosing Spondylitis

Axial spondyloarthritis (axSpA) is a type of arthritis. It mostly causes pain and swelling in the spine and the joints that connect the bottom of the spine to the pelvis (sacroiliac joint). Other joints can be affected as well. It is a systemic disease, which means it may affect other body parts and organs. The disease tends to run in families.

Symptoms of axSpA include:

- Pain in the low back, buttocks and hips that develops slowly over weeks or months.**
- Pain, swelling, redness and warmth in the toes, heels, ankles, knees, rib cage, upper spine, shoulders and neck.**
- Stiffness when first waking up or after long periods of rest.**
- Back pain during the night or early morning.**
- Fatigue.**
- Appetite loss.**

Septic Arthritis

Septic arthritis is a painful infection in a joint. The infection can come from germs that travel through your bloodstream from another part of your body. Septic arthritis can also occur when a penetrating injury delivers germs directly into the joint.

Infants and older adults are most likely to develop septic arthritis. Knees are most commonly affected, but septic arthritis also can affect hips, shoulders and other joints. The infection can quickly and severely damage the cartilage and bone within the joint, so prompt treatment is crucial.

Symptoms Include:

- Extreme discomfort and difficulty using the affected joint.
- The joint could be swollen, red and warm, and you might have a fever.



The 6 Main Causes of Arthritis

- **Wear and Tear of Cartilage in Joints**
- **Metabolic Abnormalities (chemical)**
- **Infection-Bacterial or Viral**
- **Autoimmune Disease (RA)**
- **Injury**
- **Genetic Factors**

Psychological Symptoms of Arthritis

Many studies have shown clearly that people with arthritis with the highest pain levels are the most likely to be anxious or depressed. Exactly why higher pain severity is associated with depression is not clear. It seems to be a two-way street.

Pain incites depression. Living with daily pain is physically and emotionally stressful. Chronic stress is known to change your levels of brain and nervous system chemicals. These stress hormones and neurochemicals – like cortisol, serotonin and norepinephrine – affect your mood, thinking and behavior. Disrupting your body's balance of these chemicals can bring on depression in some people.

Examples Include:

- *Depression
- *Anxiety
- *Frustration
- *Anger
- *Grief

What is the role of the fitness professional?



A man with a shaved head, wearing a light green shirt and a tan suit jacket, is shown from the chest up. He has a thoughtful expression, with his right hand resting on his chin and his eyes looking slightly to the left. The background is a plain, light-colored wall.

The Diagnosis

A diagnosis of arthritis is the first step toward successful treatment. To diagnose arthritis, your doctor will consider your symptoms, perform a physical exam to check for swollen joints or loss of motion, and use blood tests and X-rays to confirm the diagnosis. X-rays and blood tests also help distinguish the type of arthritis you have.

As a medical fitness professional, it is paramount to not only be familiar with your client's type of arthritis, but also the diagnosis process. Understanding specific triggers and symptoms varies according to the individual, so developing a fitness strategy to treat and manage symptoms needs to start here. The diagnosis should serve as the foundation to create a baseline for a safe and effective program that caters to both the mind and the body.

During the diagnosis, clients will be asked about: stiffness, swelling, location of pain, and nature of joint pain. If you have arthritis, your joints will most likely feel stiff and be hard to move. When and for how long they feel stiff will help the doctor determine what type of arthritis you have. When do you feel most stiff?

- **In the morning (how long does it last?)**
- **Following exercise**
- **After you've been sitting for a while**
- **After exercising**

What is your role as a fitness professional?

Epidemiology

In the United States

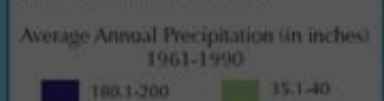
“By new estimates, 92.1 million adults have doctor-diagnosed arthritis or report arthritis symptoms.”

-Jafarzadeh, 2017

“By the year 2040, an estimated 78.4 million (25.9% of the projected total adult population) adults aged 18 years and older will have doctor-diagnosed arthritis”

(Hootman JM, Helmick CG, Barbour KE, Theis KA, Boring MA)

Precipitation varies widely across the United States, from a low of 2.3 inches per year in California's Death Valley to a high of 460 inches on Hawaii's Mount Waialeale. Nevada ranks as the driest state, with an average annual precipitation of 9.5 inches, and Hawaii is the wettest, at 70.3 inches.



Epidemiology

Physical Map of the World, February 2016



In the World

**“By new estimates, 1 in 3 people ages 18-64 have arthritis.”
-Jafarzadeh, 2017**

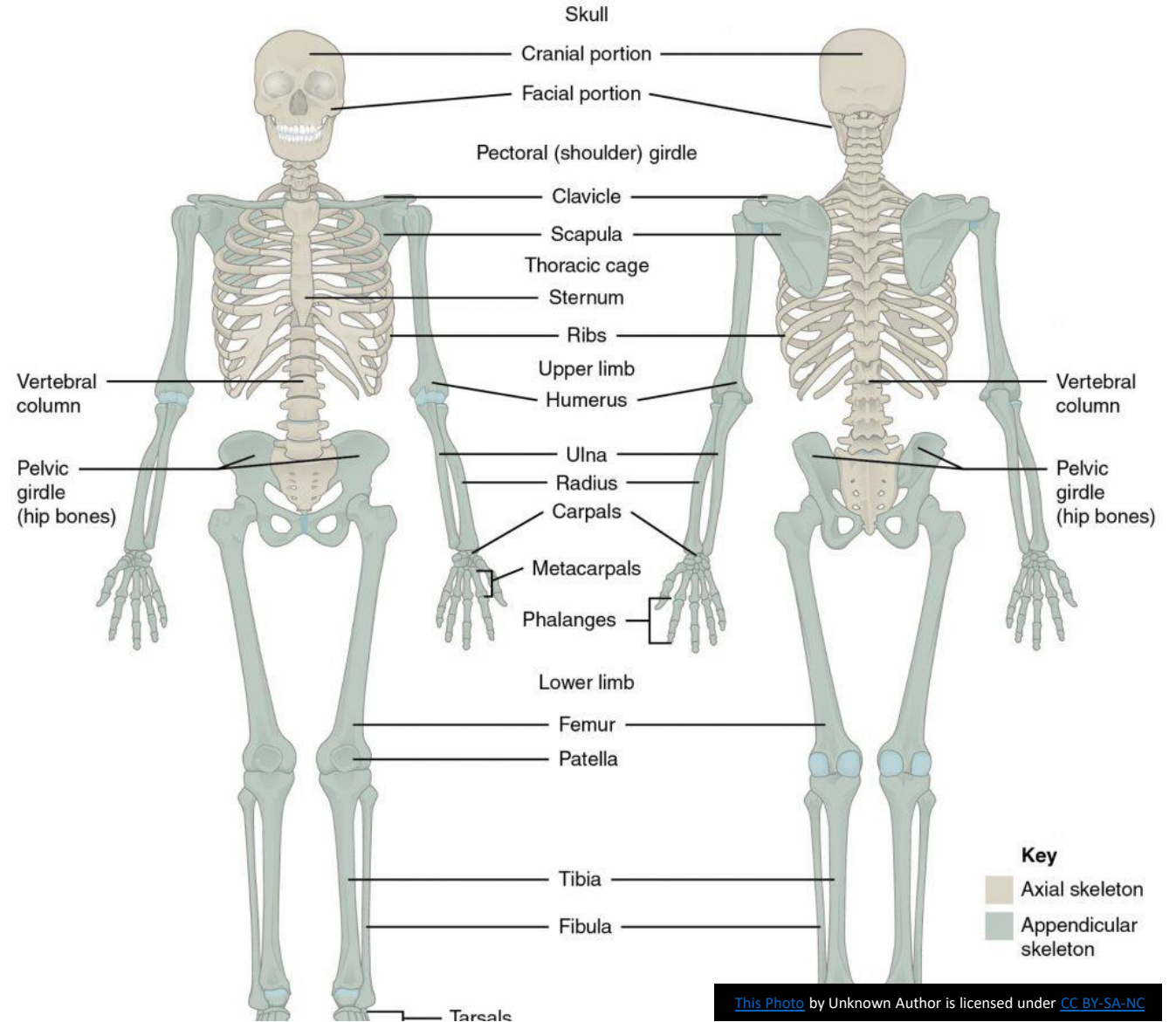
Most epidemiologic studies of RA have been conducted in United States or northern European populations. As a result, epidemiologic estimates of RA and identification of risk factors come largely from these populations.

As of August 2020, *Right Diagnosis* published an estimation of people with rheumatoid arthritis by country. The United States, notorious for its obesity rates and overuse of medications, sits at #1 for the most cases of arthritis. In addition, it is not surprising that many countries known for having the most centenarians and Blue Zones in the world show less cases of various inflammatory arthritis based on population. It is also important to note that areas in the world with cultures and climates that incorporate light to moderate exercise or movement into their daily life tend to be less affected by arthritis and the diseases that often accompany it.


Most Common Joints Affected by Arthritis

Anatomy/Biomechanics/Function

- Neck & Shoulders
- Elbows & Wrists
- Hands & Fingers
- Hips
- Knees
- Ankles & Feet



This Photo by Unknown Author is licensed under [CC BY-SA-NC](https://creativecommons.org/licenses/by-sa/4.0/)



**Understanding Treatment
Strategies
in the management of Arthritis
Symptoms**

**Rest and Recovery Options
Rehabilitation Options
Medications/Supplements
Injections/Surgery Options**



Overview of the
Healing Process
Dysfunction & Pain

- Physical
- Emotional/Holistic
- External Factors & Hard Truths



Anti- inflammatory Nutritional Recommendations

What is the anti-inflammatory diet?

While there is no specific “diet” that people with arthritis or rheumatoid arthritis (RA), should follow, researchers have identified certain foods that can help control inflammation. Many of them are found in the so-called Mediterranean diet, which emphasizes fish, vegetables and olive oil, among other staples.

****Always advise clients to speak with their doctor or registered dietician to find out if they have any dietary restrictions.**



Mediterranean Diet Benefits

Studies confirm that eating foods commonly part of the Mediterranean diet can do the following:

- 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 can lessen joint pain

Below are key foods from the Mediterranean diet.

- Fish
- Nuts & Seeds
- Fruits & Veggies
- Olive Oil
- Beans
- Whole Grains
- Nightshade Vegetables





Foods to Avoid vs Foods to Embrace

S.O.S. PLEASE AVOID ME!!!

Sugar, Oil and Salt!

While cutting down on these three ingredients sound simple, they are the major culprits behind arthritic flare-ups. Most Americans suffering from arthritis lack the knowledge to control their symptoms through nutrition. For example, the American Heart Association suggests limiting added sugars to no more than 6 teaspoons, or 100 calories, for women and 9 teaspoons, or 150 calories for men. The Mayo Clinic suggests ingesting less than 2300 mg of sodium each day, which seems like a lot, until you realize that ½ teaspoon of salt contains 1200 mg.

MyPlate PLEASE EMBRACE ME!!!

In 2011, the USDA replaced its food pyramid with a new icon for healthy eating called MyPlate. It was designed to provide an easier way for people to understand and create balanced meals. The MyPlate icon shows an image of a place setting with a plate and glass. The plate is divided into food group targets (vegetables, protein, fruits, and grain). Shifting to a plate-based approach nutrition encourages people to look at what's on their actual food plate. For example, the American Diabetes Association recommends half of your plate consist of vegetables, ¼ protein, and ¼ grains, and emphasizes water intake. Small servings of fruit and fats such as nuts, seeds, avocados, etc....while vegetables, fruits, whole grains, and beans should make up the bulk of the carbohydrates you are consuming

Exercise Progression in the Treatment of Arthritis



ASSESSING THE CLIENT

As a fitness professional, it is important to not only be educated about the various types and symptoms of arthritis, but also how to properly assess clients by taking into account their physical or emotional limitations. Following a specific protocol to onboard new arthritic clients and understand their abilities and needs is crucial. This is the first step to developing trust and creating a culture of open communication where the arthritic client feels they are supported, and their voice is heard.

In addition to making sure arthritic clients are cleared by their doctor to exercise, a thorough client intake form should be filled out and discussed before beginning a baseline training.

At this time, current or past injuries, medications, and concerns must be fully addressed. This is the time to lay the groundwork for a successful client-trainer relationship that breeds positivity, encouragement and trust.

CREATING TRUST

In order to create trust, you must be trustworthy. In other words, you must be worthy of gaining the trust of others. This means that you must openly communicate with your clients: be honest about your usefulness and your limitations. You may not always have the perfect solution or be able to answer every question but be open to finding out everything you can in order to best help them achieve their goals. Find out more about their injuries, conditions, etc... Taking an arthritis specialist course is a great way to qualify yourself when explaining the “WHY” and the exercise science that is involved behind each exercise. In other words, be prepared to do whatever it takes to create and maintain your relationship with your client.

A trusting relationships is dependent on the presence of:

Communication & Active Listening

Friendliness

Giving & Receiving Feedback

Volume & Clarity

Empathy & Respect

Non-Verbal Cues & Responsiveness



Arthritis Exercise Program Design

IMPACT (Force on joints, body during activity)		INTENSITY (Level difficulty, power, cardio response to activity)		
HIGH	LOW	HIGH	LOW-MOD	PROGRESSIVE
<ul style="list-style-type: none"> • Run, jump skip, kick, punch, plyometrics • Force motion outside normal range • Higher force 	<ul style="list-style-type: none"> • Row, swim, water aerobics, walk • Most resistance training • Pilates, yoga, tai chi • Minimal force 	<ul style="list-style-type: none"> • Fast or heavy • Rapid heart rate • Conversation difficult • Muscle burn • Shorter durations 	<ul style="list-style-type: none"> • Moderate to slow • Steady heart rate • Can converse • Minimal muscle failure • Longer duration 	<ul style="list-style-type: none"> • Varied pace • High adaption • Mixed duration • Increase exercise tolerance • Reduced risk

Assess, Reassess & Repeat!

• Designing exercise programs that work all planes of the body is paramount. However, it is important to remember when integrating multiplanar exercises into your client's workout that it must:

• Focus on exercises involving the major joints of the body (hip, knee, shoulder, elbow, etc.)

• Emphasize movements that include multiple joints, and check for kinetic chain alignment.

• Start small and you build strength and confidence; multi-joint movements tend to be a bit more complex.

• Mix it up. Include new movements and new equipment/modalities in each workout.

****Please Note****

Depending on the type and severity of the arthritis, pushing client's too hard can result in days or weeks of painful flare-ups or further joint damage.

Protecting the Joints

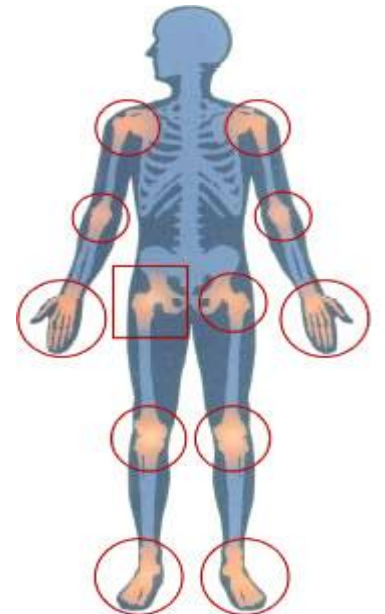
Encourage clients to trust their instincts and avoid exerting more energy than they think their joints can handle. Slowly increasing pain-free exercise length and intensity is the key to safely and effectively implementing an exercise program to meet the needs of all types of arthritis.

Focus on the 6 foundational movement patterns that characterize how the human body moves. As an effective fitness professional, you must implement all foundational patterns.

- Squat
- Hinge
- Lunge
- Push
- Pull
- Carry

In addition, when designing arthritis exercise programs, each movement must have a purpose.

- Range of Motion
- Balance, Stability and Flexibility
- Endurance, Strength and Power
- Breath and Mindfulness



Breaking Down the Program

I. The Dynamic Warm-Up:

Fluid Movements-Increase Range of Motion-Improve Blood Flow-Increase Circulation

II. Working “In” the Workout:

This is the “focus of the day.” Be aware that in the United States, people commonly refer to exercise as “working out.” Exercise should be something that we “work in” to our lives to live longer, healthier, and pain-free years. As a fitness professional, be aware that many clients may be new to exercise and that it may be intimidating, scary, and uncomfortable. While you will be in constant communication with your client regarding the importance of each exercise in relation to how it will help to alleviate symptoms of arthritis through a combination of strength, flexibility, and balance, this is also the time to be empathetic and supportive.

III. Cooldown, Stretching, Flexibility & Mindfulness:

Isometric stretching, breath awareness, and mindfulness practices is just as important as the dynamic warm-up and the exercise portion of the workout. As an arthritis exercise specialist the cool down may be the difference between clients experiencing slight muscle soreness and discomfort to experiencing a severe flare-up that may leave them unable to exercise for an extended period.

Dynamic Warm-up

Examples of dynamic exercises suitable for the arthritic client may include:

- **Head/Neck Circles**
- **Shoulder Rolls/Shrugs**
- **Arm/Wrist Circles**
- **Shallow Squats/Lunges**
- **Walking/Marching in Place or Jogging**
- **Hip Circles/Ankle Circles/ Toe Taps**

Working “in” the Workout

Examples of effective exercises for the arthritic client may include:

- **Squats with or without aid/chairs/rails**
- **Walking up and down stairs**
- **Lateral Steps with or without a band**
- **Bicep/Tricep Curls with light weights**
- **Multi-Directional Lunges (Shallow)**
- **Knee Lifts/Toe Taps/Lateral Step Overs**
- **Bicycle Riding, Swimming, Water Walking/Jogging, Elliptical, Stair Climber**

Cooldown, Stretching, Flexibility & Mindfulness

Effective Cooldown Practices (standing/seated/laying down)

- Savasana
- Guided Imagery
- Corpse Pose
- Cat/Cow Pose (variation of spinal flexion and extension)
- Overhead Reach
- Calf Stretches on step/against wall/modified Downward Dog
- Myofascial Release Foam Rolling

Arthritis Exercise Post-COVID

It's Time to Reimagine Exercise

RECONSTRUCT REMAKE
RECYCLE REJUVENATE
REVAMP REDESIGN RENOVATE
REIMAGINE
RETHINK REUSE RECREATE
REFURBISH RESTORE RENEW
REMODEL REDOREVISE

The “new” normal for the arthritis exercise specialist may involve outdoor exercise with little to no equipment. Variables such as the weather, uneven ground, and even access to bathrooms must now be considered when creating and scheduling exercise programs for the arthritic client. In addition, guaranteeing a safe space for an efficient and effective session during a time of heightened stress and uncertainty must also be considered when conducting your “mental check in.”

Arthritis Exercise Post-COVID

Social Distance Guidelines:

1. Masks

Depending on the latest guidelines, restrictions, and policies, masks may be required for all in-person sessions. Be aware that many types of arthritis are considered autoimmune diseases that compromise the immune system.

2. Disinfecting

While working with clients who may have compromised immune systems, disinfecting before, during, and after all sessions can make a huge difference in fighting the spread of disease. Hand sanitizer and disinfecting wipes and spray should be readily available throughout the session and each piece of equipment used should be immediately wiped clean once it is no longer in use.

3. Personal Touches

Social distancing is recommended in reducing the spread of COVID-19 and has reduced the number of infections according to the CDC. High-fives, hugs, pats on the back, and hands on form correction should be carefully considered. It is important to communicate with your client regarding their comfort level.

4. Signs of Sickness

If training indoors, it is recommended that temperatures be taken upon entry, and if there are any signs of sickness, training should not take place. Since COVID-19 is said to be an airborne disease, sneezing, coughing, eye-rubbing, or touching of the face is said to lead to the spread of infection. Remember that immunocompromised clients such as those with rheumatoid arthritis are at a much higher risk for getting sick than the general population.

EFFECTIVE MARKETING STRATEGIES

Create specific business pages on the following social media platforms are a must for maximizing your target market.

- Facebook (35+ and baby boomers)
- Instagram (Millennials, under 55)
- Twitter (all ages)
- LinkedIn (mostly 35+ professionals)
- SnapChat (under 25, but growing in popularity with other age groups)
- Pinterest (25+)

Above and beyond social media platforms, are:

- Podcasts
- Blogs/Vlogs
- Webinars
- E-Newsletters
- ZOOM/Google Hangout/Meet-ups
- Workshops/Course Offerings



Become an Arthritis Exercise Specialist

ELEVATE YOUR CAREER!

**BECOME AN ARTHRITIS EXERCISE SPECIALIST AND LEARN THE
IN-DEPTH SKILLS AND KNOWLEDGE NEEDED TO SAFELY AND
EFFECTIVELY WORK WITH ARTHRITIC POPULATIONS.**

medfitclassroom.org

CONTACT CHRISTINE CONTI

info@ContiFit.com

www.ContiFit.com

(732) 575-4768

Instagram: get_contifit

Facebook: Christine Conti



“Anything is Possible!”