

# I START Tool

## A Health and Exercise Professional Guide To facilitate the prescription of muscle strengthening exercise for people with rheumatoid arthritis

Before meeting with your client, understand the steps to having a muscle strengthening exercise conversation below and share the client guide with them.

Click on the underlined text to learn more about any topics you are unfamiliar with!

### 1 Muscle Strengthening Exercise?

"Movement using bodyweight or external resistance that improves muscular strength, power, or endurance, and may ultimately positively impact mobility, function, and independence."<sup>1</sup>

### 2 Understanding Rheumatoid Arthritis

Rheumatoid arthritis is a chronic, inflammatory, autoimmune disease that can affect any joint, often the hands and feet. Clients may experience pain, fatigue, and changes to joint alignment, biomechanics, stability, and function. Co-morbidities, depression, and medication side effects are also common. Do your homework on symptoms, pathophysiology, and medications before starting.

### 3 Would you like to discuss muscle strengthening exercise?

Have a conversation with your client to explore if they're ready and interested in muscle strengthening exercise. Talk about benefits such as reduced pain, improved function, decreased risk of cardiometabolic disease, and improved mental health.

### 4 Reiterate the Safety of Exercise

Reassure your client that muscle strengthening activities are safe and that you'll start at what they're comfortable with and progress gradually. You can use the CSEP Get Active Questionnaire for exercise pre-screening.

### 5 Set Goals

Together, review your **client's filled I START form** and the **Exercise Prescription Considerations** for before and during your exercise session (**Page 6**) to help tailor your client's prescription.

Use the ACSM Physical Activity Guidelines (**Page 7**) to help refine your client's goal for muscle strengthening exercise. Start at the intensity and amount your client is ready for- remember, anything is better than nothing!

### 6 Prescribe!

Use the **Sample Programming** to create an exercise plan that aligns with their goals (**Page 2 & 3**)

Also work slowly towards getting >150 minutes of moderate-to-vigorous aerobic activity/week (e.g., going for a brisk walk/wheel), move more, decrease sedentary time, and sleep well as defined by the "24-Hour Movement Guidelines".

### 7 Provide Resources/Support to Continue Exercising and Follow-Up

Support your client to stick with their exercises (**Page 2 of both tools**). Create a plan (day[s], time, and location) for their exercise. Set a strategy to monitor progress, maintain accountability, and receive feedback. This monitoring can be done with you or someone close to your client. Additional resources are also available for mental health, mindfulness, and pain.

### 8 Refer to Other Professionals/Support When Necessary

Use a team approach to supporting your client to participate in muscle strengthening exercise. Family and friends, kinesiologists, physiotherapists, rheumatologists, or other health and exercise professionals who have experience working with patients living with rheumatoid arthritis are just some examples of who should be involved!

# Exercise Prescription Considerations for Rheumatoid Arthritis

## 1. Before prescribing:

- Review their filled 'I START Client Guide' sheets and save a copy.
  - "Has anything changed since you filled out your sheet? How are you feeling today in terms of things like joint symptoms, pain, and stiffness? We'll adjust the intensity accordingly."
- Optional: The **Multi-Dimensional Health Assessment Questionnaire** may help evaluate their current functional ability, if scores are higher, consider decreasing intensity today.

## 2. During each muscle strengthening session:

- **Include a warm-up** that increases blood flow to the working muscles and improves safe range of motion and mobility. The warm-up can be used to assess mobility, help the client gauge their disease symptoms that day, and to reduce pain and stiffness.
- **Monitor symptoms** throughout and after the session to inform whether intensity or any exercises need to be modified or changed the next session.
- **If feeling pain:** "Where are you currently feeling your pain? Is it in the joint or in the muscle?"
  - Pain location (i.e., in the muscle) may be used to help distinguish normal, strength training-related delayed onset muscle soreness pain from potentially harmful joint pain.
- **If in a flare:** "What does this flare feel like for you? Are there specific joints that are inflamed? We will focus on strengthening exercises that involve the least symptomatic joints at a lower intensity but continue to do range of motion for the other joints."
  - Flares are increases in intensity of disease symptoms that are worse than typical. They are experienced differently by each individual. Offer variety/adaptability in equipment, exercises, range of motion, dose, progression, and scheduling. It may be helpful to have a plan for flare and non-flare days or to provide ranges in repetitions or intensity in your program.

## 3. Supporting the maintenance of the program:

"Let's take a look at your I START Client Guide responses to see how we can best support you to stick to your program!"

- **Explore ways to keep their exercise engaging** like exercising with a friend, joining a group class, and use strategies like goal setting and action planning to help your client stick to their program.
- **Progress slowly and give praise** when appropriate to help overcome fear of being active.
- **Use adaptive or protective devices** such as padded gloves, splints, wrist hooks, or adapted shoes to help the client strength train more comfortably. Cuff weights can be used to avoid stress to finger and wrist joints.
- **Give your client a copy of their program** with clear instructions or refer them to the videos. Forgetting exercises is common for all of us, but is especially important for clients experiencing symptoms that cause memory loss or 'brain fog'.
- **Work with your client to explore how strategies can be inclusive** of cultural, gender, socioeconomic, and other important considerations to your client (e.g., clothing, gender-inclusive change rooms, diverse practices of movement like Tai chi, etc.).

# Modified ACSM Prescription Guidelines<sup>2</sup>

**Goal is to work towards 2-3 sets of 6-12 reps, using 1-2 multi-joint exercises per major muscle group.  
Aim for an RPE of at least 6-8/10, 2-3 times/week on non-consecutive days.**

Program Variable	Recommendation	Notes
Sets	1-3 sets per exercise/muscle group.	<ul style="list-style-type: none"> <li>Start with one set for beginners or older adults with frailty.</li> </ul>
Repetitions	Start with 10-15 at a lower relative resistance for beginners and progress to heavier weights at 6-12 reps. <sup>3</sup>	<ul style="list-style-type: none"> <li>Strength and muscle growth can be optimized using higher reps with lower weights or lower reps with higher weights if effort at the end of the set is high.</li> </ul>
Intensity	<p>Start at the intensity level that they are ready for and progress to higher intensities (&gt;6-8 out of 10).</p> <p>Lighter loads are recommended for beginners, or adults with frailty or special considerations (e.g., cardiovascular disease, osteoporosis).</p> <p>When training for power, use light to moderate intensities (3-6 out of 10) with high velocity movements.</p>	<p>Modified OMNI perceived exertion scale for resistance exercise<sup>4</sup></p>
Exercise Selection	8-10 different exercises.	<ul style="list-style-type: none"> <li>Include major muscle groups targeted through multi-joint movements and exercises that simulate daily activities (e.g., sit-to-stand).</li> </ul>
Modality	Body weight, resistance band, cuff weights, machine, or free weight.	<ul style="list-style-type: none"> <li>Isometric exercises held for at least 6 seconds (5-10 reps) may be preferable for clients who are experiencing more severe disease symptoms.<sup>5</sup></li> </ul>
Frequency	2-3 days/week per muscle group.	<ul style="list-style-type: none"> <li>Can start with one day/week. Train on non-consecutive days (e.g., workout on Mon, Thurs, &amp; Sat).</li> <li>Plan rest days when symptoms are expected to be worse (e.g., near injection days).</li> </ul>
Progression	Progress slowly by changing volume, intensity, equipment, stability, and complexity of movements.	<ul style="list-style-type: none"> <li>Lying, seated, kneeling, double vs single leg, stable vs unstable surface.</li> <li>Single vs multi-joint, combined exercises, range and plane of motion.</li> <li>Tempo, weight, sets, reps, rest, speed.</li> </ul>

# Sample Programming

Together, trial any exercises that may be appropriate based on your discussion. For demonstrations of how to do these exercises, check out this video series. **Note: This program will not replace your patient's therapeutic exercise prescription!**

Movement	Example Exercises and Progressions			Details		
"Functional Implications"	<b>Least Challenging</b>	←————→	<b>Most Challenging</b>			
<b>Warm-Up</b> <i>"Get ready/check how you feel"</i>	Move to raise heart rate and warm the muscles	Active, comfortable range of motion	Practice exercises and slowly raise intensity			
<b>Increase Heart Rate</b>	Seated March with Arm Swings	Standing March with Arm Swings	High Knees with Arm Swings			
<b>Back Activation</b>	Seated Shoulder Gators	X's to Y's/T's	X's to Y's/T's with March			
<b>Hip Activation</b>	Seated Lateral Toe and Heel Taps	Stationary Lateral Hip Openers	Front, Side, Back Toe Taps in Quarter Squat			
<b>Shoulder Activation</b>	Internal/External Rotation @ 0	Banded Pull Apart with Elbows Bent	Banded Pull Apart with Elbows Straight			
<b>Preparation to Raise Intensity</b>	Seated Dowel Push and Press	Standing Dowel Push and Press	Squat with Dowel Push and Press			
<b>Core</b> <i>"Getting out of bed"</i>	Lying Down Bent Knee Raise	Deadbug	Bird dog	<b>Sets:</b>	<b>Reps:</b>	<b>RPE:</b>
<b>Rotational Core</b> <i>"Putting baby in the car seat"</i>	Seated Weighted Side to Sides	Seated Paloff (Belly) Press	Standing Diagonal Cross Body Pull	<b>Sets:</b>	<b>Reps:</b>	<b>RPE:</b>
<b>Lateral</b> <i>"Stepping to the side"</i>	Seated Clamshells	Side Lying (or standing) Hip Abduction	Side Lunge	<b>Sets:</b>	<b>Reps:</b>	<b>RPE:</b>
<b>Lunge</b> <i>"Going up the stairs"</i>	Step Ups (w/ Support)	Reverse Lunge	Curtsy Lunge	<b>Sets:</b>	<b>Reps:</b>	<b>RPE:</b>
<b>Horizontal Push</b> <i>"Opening doors"</i>	Wall/Knee Push-Ups	Banded Chest Press	Dumb Bell Bench Press	<b>Sets:</b>	<b>Reps:</b>	<b>RPE:</b>
<b>Hinge/Hip Extension</b> <i>"Picking up objects off the ground"</i>	Glute Bridge	Romanian Deadlift	Kettle Bell Swing	<b>Sets:</b>	<b>Reps:</b>	<b>RPE:</b>

**Sets:** # of groups of repetitions, **Reps:** # of times the movement is repeated,  
**RPE:** How hard you're working on a scale of 0-10 (10 being working as hard as possible)

<b>Horizontal Pull</b> <i>"Pulling weeds"</i>	Seated Row	Standing Reverse Fly	<b>Bent Over Row</b> <b>Sets:</b> <b>Reps:</b> <b>RPE:</b>
<b>Squat</b> <i>"Standing up from a chair"</i>	Quarter Wall Sit	Bodyweight Squat (w/ Chair)	<b>Goblet Squat</b> <b>Sets:</b> <b>Reps:</b> <b>RPE:</b>
<b>Vertical Push</b> <i>"Storing snacks on the top shelf"</i>	Front Shoulder Raise	Shoulder Press	<b>Arnold Press</b> <b>Sets:</b> <b>Reps:</b> <b>RPE:</b>
<b>Vertical Pull</b> <i>"Swimming"</i>	Straight Arm Pull Down	Lat Pulldown	<b>Assisted Pull/Chin-Up</b> <b>Sets:</b> <b>Reps:</b> <b>RPE:</b>

Other notes/Plan:

Next session (if applicable):