Exercise Prescription for Myositis

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Intervention

Drug?

Exercise?

Before

After
Exercise as Medicine

• Everyone claims to do so

• Not everyone is actually doing it

• Practical difficulties
Misconceptions

• Exercise is good for ANYTHING

• Exercise is important, but NOT as important as real drugs

• There is nothing scientific about exercise – it just works!

• This is NOT a medical intervention – you don’t need to see a specialist, just go to a gym!
Exercise as a Medical Intervention

• There are different kinds of exercise: endurance, cardiovascular, resistance, etc.

• Each exercise has very specific goals

• There are different “dosing” for exercise
Imagine…

- You have a diabetes and your doctor wrote a prescription like this…

\[\textit{Diabetes drugs, ask pharmacist to evaluate and treat}\]
In Reality

- This is very common, and completely accepted

Physical Therapy, therapist to evaluate and treat
What Are Needed to Prescribe Exercise?

- Accurate and objective measure of muscle strength
- Types of exercise should be well defined
- Standardized way of “dosing” the amount of exercise

Muscle Strength
How to Measure Muscle Strength?

• Not as easy as you think!

• Different “kinds” of muscle strength: endurance, resistance, isometric, isokinetic, etc.

• Normal vs. Abnormal?
For Myositis

- Functional Index (FI)-2 was developed to accurately measure endurance quality of myositis.

- FI-2 is standardized and quantifiable.

- In our clinic, we also use other standardized measures (grip strength).
Types of Exercise

• **Cardiovascular**: the goal is to improve cardiovascular function (outcome: “VO2max” or heart rate)

• **Endurance**: the goal is to increase repetition

• **Resistance**: the goal is to increase the weight

• **Balance**

• **Flexibility** (stretching)
How to Determine the “Amount” of Exercise?

• Exercise can be “dosed” just like drugs

• Big difference in baseline strength

• Then how to determine what’s intense vs. mild?
Repetition Maximum (RM)

- **One RM**: the most weight that can be lifted throughout the entire range of motion
- The higher the RM, the lower the weight
- High intensity, typically < 5 – 10 RM
- Low intensity or endurance typically > 15 to 20 RM
- Well validated
Caveat

• One RM can change over the course of exercise!

• Need to re-measure RM every 3-4 months
SAID Principle

• Specific Adaptation to Imposed Demands (SAID)

• Training in certain muscle will only improve that specific muscle

• Endurance training -> endurance, not resistance, vice versa
Myositis and Exercise

• For a long time, exercise was NOT recommended

• Over the past decades, the safety of exercise was proven

• A seminal paper by Alexanderson showed clear benefits of exercise on chronic myositis patients
Example: Prescription for PM and DM

3 sets of 10RM, 3 times a week

Re-measure RM every 3-4 months

Muscles that are affected (proximal)
Workflow

Doctor

Prescription of Exercise

Feedback

Physical Therapist

Detailed Protocol

Feedback
Difficulties

• Doctors and Therapists need constant communication

• Team of MD, PT, OT, and SLP – not always easy!

• Many patients are from out of state

• Politics!
Future Directions

• Awareness!

• National and international network through TMA

• Tele-rehabilitation

• New technologies
QUESTIONS?