Exercise Prescription: Resistance Training for Patients with DM and FWB on Lower Extremity

APTA Academy of Clinical Electrophysiology & Wound Management	Prescription Component	Resistance Training
F	Frequency 	• 2-3 days/week with at least 48 hours between training the same muscle group[1,2]
I	Intensity 	• Moderate (50-69% of 1-RM) or • Vigorous (70-85% of 1-RM)
T	Time 	• 10 – 15 repetitions per set[1,2] • 1 – 3 sets per exercise type[1,2]

T	Type 	• Resistance using: [1,2]
		  ○ Body weight
		  ○ Elastic bands
		  ○ Free weights
		  ○ Weight machines
		• Work major muscle groups with 8-10 exercises

V	Volume 	• Total of repetitions and sets
P	Progression 	• Can increase resistance (intensity) • Increase number of repetitions or sets • Increase frequency of resistance training
Why?	Reasoning 	• With strength training, muscle needs rest prior to repeated bouts, just like for people without diabetes. • Strength training supports improved diabetes management.
Benefits[1-3]		• Better glycemic control • Improved insulin sensitivity • Lower blood pressure • Lower A1C • Improved lipid profile • Improved function • Decreased depression • Improved quality of life

Modified from Table 2 Kanaley JA, et al. 2022[1] and consistent with Standards of Medicine in Diabetes.[2] NWB: Non-weight-bearing; RM: repetition maximum;

Before performing resistance training:

1. Check blood glucose
2. Check blood pressure
3. Consider orthopedic limitations

Following exercise:

1. Check blood glucose
2. Check blood pressure
3. Remind patient to wait 48 hours to lift again

Example Exercise Prescription Related to Non-weight bearing Resistance Exercise:

Resistance training for each of the major muscle groups (e.g., standing arm curls with 10-lb weight when participant has a 20-lb 1-RM for arm curl) (**type** and **intensity**) for 12 repetitions per set x 2 sets (**time**) x 2 times per week (**frequency**). The **volume** of this exercise would be 4 sets of 12 repetitions per week. This activity could be progressed by increasing number of repetitions (e.g., 15 repetitions per set) OR number of sets (e.g., change from 2 to 3) OR frequency of bouts (e.g., 3 times per week) OR intensity of bouts (e.g., moving from moderate (50-69% of 1-RM) to vigorous (70-85% of 1-RM)) (**progression**).

References:

1. ACSM. ACSM's guidelines for exercise testing and prescription. 12th ed. Philadelphia, Wolters Kluwer, 2026.
2. Kanaley JA, Colberg SR, Corcoran MH, et al. Exercise/physical activity in individuals with type 2 diabetes: a consensus statement from the American College of Sports Medicine. *Med Sci Sports Exerc*. 2022;54(2):353-368.
3. American Diabetes Association Professional Practice Committee. 5. Facilitating positive health behaviors and well-being to improve health outcomes: standards of care in diabetes—2025. *Diabetes Care*. 2025;48(Suppl. 1):S86-S127.

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