

FPIN's Clinical Inquiries

Exercise to Reduce Falls in Older Adults

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Clinical Question

Do exercise interventions in community-dwelling older adults reduce the incidence of falls?

Evidence-Based Answer

Exercise programs should be recommended for community-dwelling adults 60 years and older because they lead to fewer falls. (Strength of Recommendation [SOR]: A, based on meta-analyses of randomized controlled trials [RCTs].) Community-dwelling adults 50 years and older should participate in exercise programs to decrease their rate of falls resulting in fractures. (SOR: B, based on meta-analyses of RCTs with heterogeneity and low-quality evidence.) Balance training, functional exercise, and resistance training are the most effective types of exercise to reduce the risk of falls. (SOR: B, based on meta-analyses of moderate- to high-certainty evidence.)

Summary

RISK OF FALLS

A 2019 Cochrane systematic review and meta-analysis of 63 trials (N = 13,518) found that exercise reduced the risk of falls by 15% in community-dwelling adults 60 years and older compared with a control intervention (rate ratio = 0.85; 95% CI, 0.81 to 0.89).¹ The control intervention varied between trials but was broadly defined as standard care, which was not thought to decrease falls. A 2018 meta-analysis of RCTs (N = 4,926) showed that exercise reduced the number of community-dwelling adults 65 years and

older who experienced a fall by 11% (relative risk [RR] = 0.89; 95% CI, 0.81 to 0.97).² Similarly, another 2018 systematic review and meta-analysis of RCTs (N = 4,420) found that exercise decreased the risk of falls by 12% in adults 60 years and older (RR = 0.88; 95% CI, 0.79 to 0.98; *P* = .005; number of trials = 20).³

RISK OF FALL-RELATED FRACTURES

A 2017 meta-analysis of RCTs (N = 3,136) showed that multiple types of exercise reduced the risk of fall-related fractures by 40% in adults 50 years and older (RR = 0.60; 95% CI, 0.45 to 0.84; *P* = .003).⁴ Variations in exercise duration and setting contributed to heterogeneity. The 2019 Cochrane meta-analysis discussed above showed that exercise reduced the number of adults 60 years and older who experienced fall-related fractures by 27% (RR = 0.73; 95% CI, 0.56 to 0.95; number of trials = 10; n = 4,047), although the studies were lower quality.¹

EXERCISE INTERVENTIONS

Exercise interventions in the included studies varied in types of exercise, group vs. individual exercise, and duration of exercise programs (six months to four years) and follow-up (six months to five years). The 2017 meta-analysis found that falls decreased by 14% (rate ratio = 0.86; 95% CI, 0.78 to 0.94) in patients who improved their leg strength through resistance and strength training (standardized mean difference = 0.61; 95% CI, 0.12 to 1.11).⁴ The 2019 Cochrane review found that functional task training

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CLINICAL INQUIRIES

(including balance, gait, coordination, and functional exercises for activities of daily living) reduced the rate of falls by 24% (rate ratio = 0.76; 95% CI, 0.70 to 0.81; number of trials = 39; n = 7,920; high-certainty evidence).¹ The addition of resistance exercises probably reduces the rate of falls by 34% (rate ratio = 0.66; 95% CI, 0.50 to 0.88; number of trials = 11; n = 1,374; moderate-certainty evidence). Tai chi was found to reduce the rate of falls by 19% (rate ratio = 0.81; 95% CI, 0.67 to 0.99; low-certainty evidence).¹

Recommendations from Others

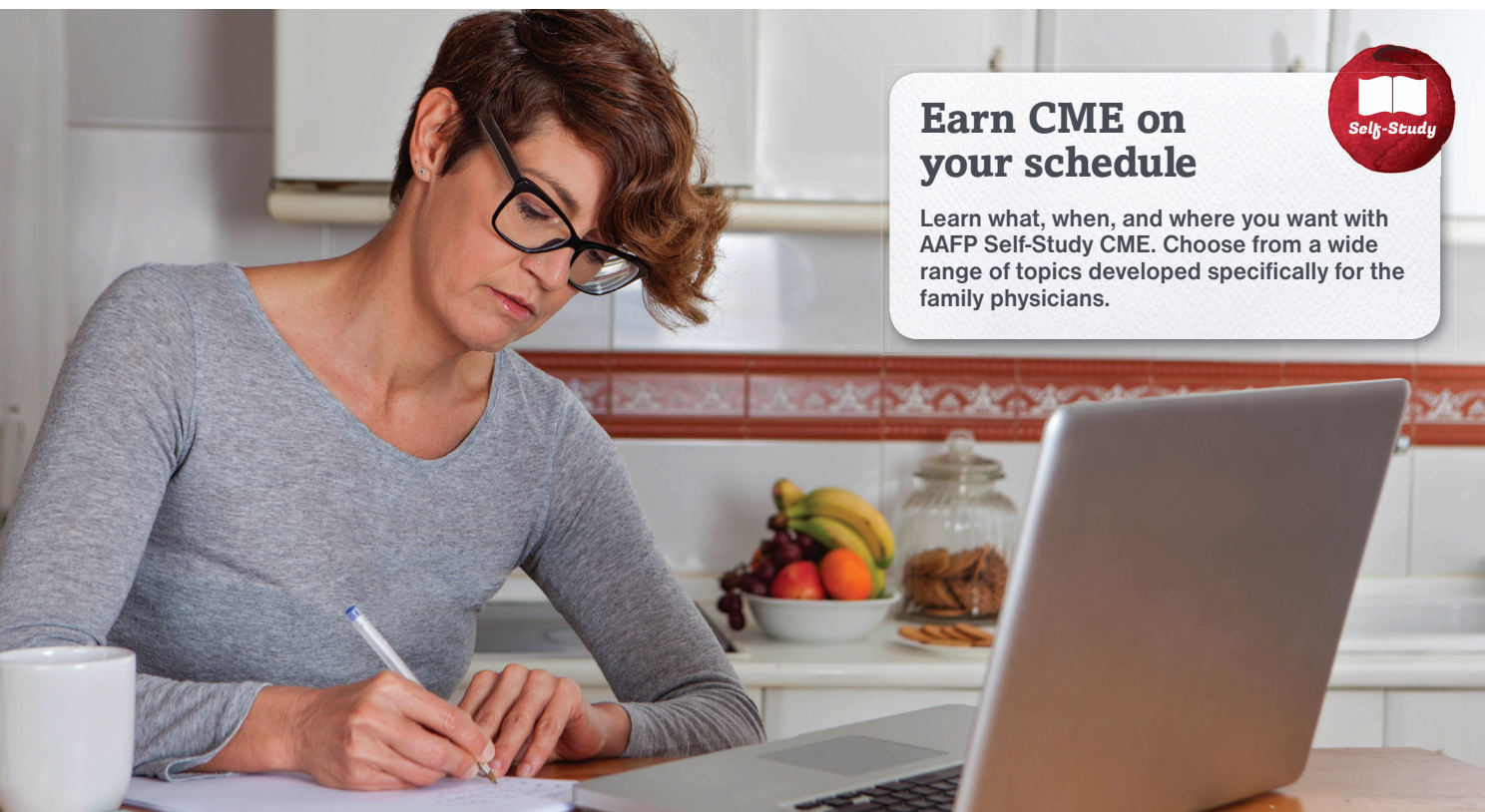
The U.S. Preventive Services Task Force recommends exercise interventions to prevent falls in community-dwelling adults 65 years and older who are at increased risk (B recommendation).⁵ The American Academy of Family Physicians recommends exercise or physical therapy to prevent falls in community-dwelling older adults who are at increased risk.⁶

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