How effective are exercise and physical therapy for chronic low back pain?

EVIDENCE-BASED ANSWER

Exercise is more effective for chronic low back pain than treatment with medication plus return to usual activity and as effective as conventional physiotherapy. The evidence is less consistent in showing that any particular exercise format provides greater benefit or that exercise provides a long-term increase in function or a decrease in pain or disability. (Grade of recommendation: A, based on systematic reviews of randomized controlled trials [RCTs].)

EVIDENCE SUMMARY

The first meta-analysis of 16 chronic low back pain RCTs in 1991 had inconsistent results on the efficacy of exercise and showed little evidence in favor of any specific exercise format.[1] The authors conducted another meta-analysis in 2000, since the quality of original studies had improved a great deal during the intervening decade.[2] This analysis showed strong evidence favoring exercise over "usual care" by primary care physicians (medications and resumption of usual activities). Exercise was found equally efficacious as conventional physiotherapy. Evidence was conflicting in a comparison of exercise with inactive treatment (ice or heat packs, rest). None of the studies showed a particular exercise format as superior. The included studies included a wide variety of structured exercise programs. Exercise demonstrated no benefit in situations of acute back pain.

Several other systematic reviews have supported the role of exercise in patients with chronic low back pain.[3-5] A 1996 review of 13 RCTs examining specific types of exercises found that both intensive dynamic extension exercises and mild isometric flexion and extension exercises were more effective than placebo.[3] Although the intensive exercises were more efficacious than normal exercises at the 3-month follow-up, they were equally efficacious at 12 months. Evidence was conflicting in a comparison of flexion and extension exercises. Another review reported that exercise, back manipulation, and intense back schools were equally efficacious.[4]

Two recent studies were not included in the above reviews. One was an RCT that showed that a progressive intervention program that included cognitive behavioral management was more effective than exercise alone to decrease pain and self-reported disability.[6] The other study was a retrospective chart review that reported improved pain and decreased disability in patients with chronic low back pain after 6 weeks of exercise.[7]

RECOMMENDATIONS FROM OTHERS

The clinical practice guideline for low back pain from the Agency for Health Care Policy and Research deals mainly with acute pain and does not recommend exercise in acute conditions.[8]

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CLINICAL COMMENTARY

In my experience, most patients with low back pain share one characteristic: a sedentary lifestyle. My patients who exercise regularly seem to have fewer problems with back pain or to recover faster from acute episodes of back pain. I generally recommend a combination of aerobic exercise, stretching, and strengthening. Patients who subscribe to any of these activities generally get better over time, but those who adhere to the full prescription get better sooner. "Motion is lotion" is my message to patients.

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How often is coughing the presenting complaint in patients with gastroesophageal reflux disease?

EVIDENCE-BASED ANSWER

Frequent coughing is a concern for approximately 35% of those with typical gastroesophageal reflux disease (GERD) symptoms of heartburn and acid regurgitation as compared with 11% in those who do not have these symptoms. Among pulmonary clinic patients with complaints of chronic cough, GERD may be the underlying cause in 40%. (Grade of recommendation: C, based on extrapolation from cohort studies.) However, no studies directly address prevalence of coughing as a presenting complaint in patients with GERD.

EVIDENCE SUMMARY

While many sources state that extraesophageal symptoms (eg, cough, chest pain, asthma) are reported by patients with GERD, only one study reported the frequency of associated symptoms.[1] This population-based survey showed that symptoms of reflux and acid regurgitation are experienced by almost 60% of the population each year. The prevalence of frequent heartburn and acid reflux was approximately 20%. Bronchitis, defined as cough that occurs as often as 4 to 6 times per day on 4 or more days per week, was reported by more than 20% of those with frequent typical GERD symptoms (occurring at least weekly) and by 15% of those with infrequent GERD symptoms. Interestingly, bronchitis was reported by almost 11% of those without GERD. This study showed the association of cough with GERD but did not address whether the cough was the initial presenting complaint.

In as many as 40% of patients with cough, GERD is the underlying cause.[2-7] Chronic cough may be triggered by more than one condition (eg, GERD, postnasal drip, or asthma) in 18% to 93% of patients.[8] Among patients with cough caused by GERD, 50% to 75% do not have classic symptoms of reflux or regurgitation.[9] Finally, cough may initiate GERD and start a cough–reflux cycle.[9] These studies were conducted in pulmonary clinics. Patients with cough whose underlying GERD was easily diagnosed and treated by their primary physician were probably not referred for evaluation in a pulmonary clinic.

RECOMMENDATIONS FROM OTHERS

The American College of Chest Physicians issued a consensus statement in 1999 regarding the management of cough.[10] According to the statement, GERD should be strongly suspected in coughing patients with upper GI symptoms or in those without GI symptoms who have normal chest radiographs, do not smoke, and do not take angiotensin-converting enzyme inhibitors. The statement reports that asthma, postnasal drip syndrome (PNDS), and GERD are the causes of cough in nearly 100% of these patients. The recommendation for evaluation of GERD is a 24-hour pH monitor or an empiric trial of antireflux medication after ruling out asthma and PNDS.

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CLINICAL COMMENTARY

Most studies of patients with chronic cough find GERD to be among the top 3 causes of this condition. Although many of these patients report other symptoms of reflux, cough is the sole symptom in some. Monitoring of esophageal pH for 24 hours is considered the gold standard for diagnosis of GERD, but limited availability and variable patient acceptance diminish the universal application of this method. A trial of intensive antireflux therapy may represent a cost-effective and practical approach to such patients, since cough from GERD may take up to 3 months to improve under such a regimen.

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What is the differential diagnosis of chronic diarrhea in immunocompetent patients?

EVIDENCE-BASED ANSWER

Case series from tertiary-care centers report toddler's diarrhea, cow's milk sensitivity enteropathy, infection, celiac disease, and idiopathic chronic diarrhea as the most common etiologies in the pediatric population. In adults, the most common etiologies were secretory diarrhea (idiopathic, laxative abuse, irritable bowel syndrome, diabetes mellitus, and fecal incontinence), malabsorption (pancreatic disease, noninflammatory short bowel syndrome, postgastrectomy, hyperthyroidism, and cholestasis), microscopic colitis, inflammatory bowel disease, celiac sprue, and radiation colitis. (Grade of recommendation: C, based on case series.)

EVIDENCE SUMMARY

Five case series of chronic diarrhea patients were identified. The largest adult study evaluated 193 patients referred to a tertiary-care center for diarrhea.[1] Another adult study evaluated 103 patients referred to the same tertiary-care center. It is unclear whether these patients had a prior workup for chronic diarrhea.[2] Secretory diarrhea was the most common etiology overall in the 2 series (21% and 45%, respectively). Other etiologies included malabsorption (35% and 28%), microscopic colitis (15% and 9%), inflammatory bowel disease (16% and 10%), and celiac sprue (0% and 3%).[1,2]

The largest pediatric study included 381 children from a tertiary-care center with chronic diarrhea defined as lasting longer than 14 days.[3] In this case series, 31% of children had toddler's diarrhea, defined as chronic diarrhea with no definitive cause in an otherwise healthy baby who is growing normally. Cow's milk sensitivity enteropathy comprised an additional 30% of cases. Etiologies for diarrhea in the remaining cases were infectious (11.8%), idiopathic (8.9%), celiac (7.3%), and other (10.2%).

A small tertiary-care pediatric study defining chronic diarrhea as occurring for more than 3 weeks and dependent on parenteral nutrition for more than 50% of daily caloric intake included only 20 patients.[4] The diagnoses included autoimmune enteropathy, congenital microvillous atrophy, chronic intestinal pseudo-obstruction, and multiple food intolerance.

A case series study from India evaluated 47 children over 6 months of age who had diarrhea for more than 15 days and were unresponsive to medications (mostly antibiotics) or relapsing after treatment.[5] The diagnoses included tropical enteropathy (46.8%), nonspecific diarrhea (21.8%), giardiasis (14.8%), irritable bowel syndrome (10.6%), and celiac disease (6.8%), although these findings probably do not apply to patients in more developed countries.

RECOMMENDATIONS FROM OTHERS

The American Gastroenterological Association divides the differential diagnoses of chronic diarrhea into 4 categories based on stool characteristics (Table).[6] A recent review article states that the most common cause among infants taking formula is protein intolerance; for toddlers, irritable colon of infancy, protracted viral enteritis, and giardiasis; and for children and adolescents, ulcerative colitis, Crohn's disease, and primary acquired lactose intolerance.[7]

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CLINICAL COMMENTARY

The patient's history often provides vital clues to etiology. A number of medications, both prescription and nonprescription, may cause diarrhea. If blood or mucus in stool, abdominal pain, and fever are present, inflammatory diseases of the bowel come to mind. Diarrhea that never awakens the patient from sleep is often caused by bowel hypermotility. Malabsorptive diarrhea should abate with fasting. Copious diarrhea that persists with fasting is usually secretory in mechanism.

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TABLE

MAJOR CAUSES OF CHRONIC DIARRHEA CLASSIFIED BY TYPICAL STOOL CHARACTERISTICS[6]

Osmotic diarrhea
Mg^{2+}, PO_4^{-3}, SO_4^{-2} ingestion
Carbohydrate malabsorption

Fatty diarrhea
Pancreatic disease
Short-bowel syndrome
Postgastrectomy syndrome
Hyperthyroidism
Cholestasis
Other malabsorption syndromes

Inflammatory diarrhea
Inflammatory bowel disease
Infectious diseases
Ischemic colitis
Radiation colitis
Neoplasia

Secretory diarrhea
Irritable bowel syndrome
Laxative abuse
Fecal incontinence
Congenital syndromes
 (chloridorrhea)
Idiopathic secretory diarrhea
Bacterial toxins

Drugs and poisons
Disordered motility
Neuroendocrine tumors
Neoplasia
Addison's disease
Epidemic secretory (Brainerd) diarrhea

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