Morning exercise is the key to a good night's sleep after heart bypass surgery

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Trouble sleeping after heart bypass surgery? Morning walks are the solution, according to research presented today on ACNAP Essentials 4 You, a scientific platform of the European Society of Cardiology (ESC).

"Many patients have trouble sleeping after heart bypass surgery," said

study author Dr. Hady Atef of Cairo University, Egypt. "When this persists beyond six months it exacerbates the heart condition and puts patients at risk of having to repeat the surgery. It is therefore of utmost importance to find ways to improve sleep after bypass surgery."

Previous studies examining the effect of exercise on sleep after heart bypass surgery have failed to simultaneously assess the impact on functional capacity (the ability to do usual activities), which often declines after surgery.

This study investigated the effect of exercise on both sleep and functional capacity. The study enrolled 80 patients aged 45 to 65 years who had sleep disorders six weeks after heart bypass surgery and also had reduced functional capacity.

Three baseline measurements were performed. First, a six-minute walk test, which measures the distance patients are able to walk in six minutes on a hard, flat surface, and is a validated way to assess functional capacity. Second, participants completed the Pittsburgh sleep quality index (PSQI) questionnaire which asks about sleep disorders. Third, patients wore an actigraph watch for 96 hours to monitor rest and activity. Many of these patients have trouble staying awake during the day but have insomnia at night—the actigraph picks up both problems.

Patients were then randomly allocated to two exercise groups: aerobic exercise or a combination of aerobic and resistance exercise. Both groups did 30 exercise sessions in the morning over a 10-week period. During the aerobic exercise sessions, participants walked on a treadmill for 30 to 45 minutes. During the aerobic and resistance exercise sessions, participants walked on a treadmill for 30 to 45 minutes and did circuit weight training (a form of light resistance exercise).

After 10 weeks, patients completed the three assessments again: the six-

minute walk test, the PSQI questionnaire, and wearing the actigraph watch for 96 hours. Changes in sleep and functional capacity were compared between the two exercise groups.

The researchers found that both exercise programmes (aerobic exercise alone and combined aerobic/resistance exercise) improved sleep and functional capacity over the 10-week period. But isolated aerobic exercise was much more beneficial on sleep and function than the combined programme.

Prior studies on sleep have used the PSQI questionnaire or an actigraph. A strength of this study was to use both methods of assessment, thereby providing a complete picture of the sleep disturbance. Together these measurements showed that exercise helped patients fall asleep, sleep continuously rather than waking up in the night, and sleep longer and more deeply.

"Our recommendation for heart bypass patients with difficulty sleeping and performing their usual activities is to do aerobic exercise only," said Dr. Atef. "We think that resistance exercise requires a high level of exertion for these patients. This may induce the release of stress hormones which negatively affect sleep."

"Aerobic exercise means physical activity that does not require a very high level of exertion," he explained. "Choose an activity you enjoy like walking, cycling, or swimming. Aim for 30 to 45 minutes and do it in the morning because research shows this releases the hormone melatonin which helps us sleep well at night."

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