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Perspective

Pulmonary Function Improvement through Postoperative Cardiac Rehabilitation

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DESCRIPTION

Cardiac rehabilitation after atrial myxoma surgery is a crucial yet often overlooked component in the comprehensive care of patients recovering from this rare cardiac tumor. Atrial myxomas, although the most common primary cardiac tumors in adults, remain exceedingly rare and are typically benign in nature. Their location within the atrial chamber predisposes patients to a variety of hemodynamic and embolic complications, which can severely impact functional capacity and quality of life. Surgical excision is the definitive treatment and usually results in excellent prognosis, yet the postoperative period can be complicated by arrhythmias, decreased exercise tolerance, and psychosocial stressors. These factors collectively make cardiac rehabilitation an essential element to optimize recovery and prevent long-term morbidity.

The initial postoperative phase following atrial myxoma surgery focuses on stabilization, monitoring for complications, and gradual mobilization. Patients often experience reduced cardiac output, fatigue, and potential rhythm disturbances due to surgical manipulation of the atrium and conduction tissue. The onset of atrial fibrillation or other arrhythmias is not uncommon and may necessitate temporary pharmacologic management. Early mobilization, even within the first 24 to 48 hours, under close supervision, has been shown to improve hemodynamic stability, enhance pulmonary function and prevent venous thromboembolism. Low intensity activity such as sitting upright, standing and short walks in the hospital corridor forms the cornerstone of this phase. Nurses and physiotherapists play a pivotal role in encouraging safe ambulation while monitoring vital signs, oxygen saturation and signs of fatigue or exertional intolerance.

Once the patient is hemodynamically stable and free from acute postoperative complications, the rehabilitation program transitions to more structured exercise interventions. Cardiac rehabilitation protocols for atrial myxoma surgery patients must be individualized, taking into account preoperative fitness, comorbidities and the extent of surgical intervention. Aerobic exercises, including walking on a treadmill or stationary cycling at moderate intensity are gradually introduced. The target is to enhance myocardial efficiency and restore functional capacity without overloading the recovering heart. Exercise intensity is often guided by perceived exertion scales and careful monitoring of heart rate and blood pressure responses, given the potential for arrhythmogenic complications in the early postoperative period. The incorporation of interval based exercise sessions, alternating between low and slightly elevated intensity, has shown promise in promoting cardiovascular conditioning while maintaining patient safety.

Strength and resistance training constitute an integral part of rehabilitation following atrial myxoma excision. Surgical access, whether via median sternotomy or minimally invasive approaches, can lead to sternal discomfort, musculoskeletal deconditioning, and reduced upper body strength. Gentle resistance exercises using light weights or resistance bands help restore muscular endurance and postural stability. Emphasis is placed on proper technique to avoid sternal stress or strain, as premature exertion may lead to wound complications or delayed healing. Rehabilitation specialists often provide patient education on safe movement strategies, including lifting restrictions, proper posture during daily activities, and gradual progression of strength exercises.

Psychosocial support is another critical dimension of rehabilitation in post-myxoma patients. The diagnosis of a cardiac tumor, coupled with the sudden need for major surgery, can provoke anxiety, depression, and sleep disturbances. These factors have been consistently linked to poorer functional recovery and diminished quality of life. Incorporating psychological counseling, stress management techniques, and supportive group therapy into rehabilitation protocols is essential.

Nutritional management is a complementary aspect of post-myxoma rehabilitation that warrants attention. Surgery often induces metabolic stress, leading to increased caloric and protein requirements for optimal healing. Patients may experience reduced appetite or gastrointestinal discomfort in the immediate postoperative period, which can compromise nutritional intake. Collaboration with dietitians to develop individualized meal

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plans ensures sufficient macronutrient and micronutrient intake, which supports wound healing, immune function, and energy levels necessary for active participation in rehabilitation. Adequate hydration and moderation of sodium intake are particularly emphasized in patients with residual atrial or ventricular dysfunction to prevent fluid retention and exacerbation of cardiac symptoms.