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Sunday Care Therapy

Providing personalised care in the comfort of your own home

🦴 Falls & Hip Replacement Information Document

Comprehensive Guide to Survival Rates and Rehabilitation Protocols

Prepared by: **Sunday Care Therapy**

1-Year Survival Rates After Hip Replacement Surgery

Key Points

- Research suggests the 1-year survival rate for elderly patients after hip replacement for fall-related fractures is around **78.8% to 83.4%**, averaging about **80.7%**
- Survival varies significantly by age, with younger elderly (60-69) at nearly **98%** and those over 90 at about **72.5%**
- Pre-existing conditions like COPD and diabetes lower survival rates
- Care settings matter: community living shows better outcomes than nursing homes

Survival Rate Overview

For elderly patients undergoing hip replacement due to a fall-related fracture, the 1-year survival rate is typically between **78.8% and 83.4%**, with an average around **80.7%**, based on recent studies. This means about 8 in 10 patients survive the first year, but outcomes can vary significantly.

Influence of Age on Survival

Age Group	1-Year Survival Rate	Mortality Rate	Sample Size
60-69 years	97.9%	2.1%	48
70-79 years	85.6%	14.4%	139
80-89 years	77.2%	22.8%	364
≥90 years	72.5%	27.5%	207

Impact of Pre-existing Conditions

Pre-existing conditions significantly influence survival rates. Key predictors include:

- **Chronic obstructive pulmonary disease (COPD):** Hazard ratio of 6.5

- **Diabetes:** Hazard ratio of 4.0
- **Solid tumors with metastasis:** Hazard ratio of 6.5

Role of Care Settings

Prefracture Residence	1-Year Survival Rate	Mortality Rate	Sample Size
Community	86.8%	13.2%	357
Assisted Living	76.3%	23.7%	97
Nursing Home	69.3%	30.7%	283

Post-Fall Rehabilitation and Exercise Protocols

Key Points

- A combination of **strength training**, **balance exercises**, and **multi-component programs** is most effective
- Simple exercises like sit-to-stand and heel-to-toe walking can significantly improve leg strength and balance
- Tailored, progressive programs with supervision enhance outcomes
- Evidence-based programs like Tai Chi for Arthritis show proven benefits

1. Strength Training

Strength training, particularly for the lower body, helps rebuild muscle and improve mobility.

Sit-to-Stand Exercise

Instructions: Sit on a sturdy chair with feet flat on the floor. Lean forward, squeeze gluteal muscles, and stand up slowly without using hands. Sit back down and repeat.

Repetitions: 10 times, twice daily

Progression: Add hand weights for increased resistance

Leg Extensions

Instructions: Sit in a chair and extend one leg straight out, hold for 3 seconds, then lower.

Repetitions: 10 per leg, twice daily

Equipment: Optional ankle weights or resistance bands

2. Balance Exercises

Balance exercises are key to preventing future falls and improving stability.

Single-Leg Stand

Instructions: Stand on one leg, holding onto a chair if needed, for 10-30 seconds, then switch legs.

Repetitions: 5 per leg, twice daily

Progression: Try without holding support or with eyes closed

Heel-to-Toe Walking

Instructions: Walk in a straight line, placing the heel of one foot directly in front of the toes of the other.

Distance: 10 steps, twice daily

Progression: Walk without support or on an uneven surface

3. Multi-Component Programs

Programs combining strength, balance, and aerobic activities work best for comprehensive fall prevention.

Example 12-Week Program Structure:

- **Duration:** 12 weeks, 3 sessions per week, 30 minutes per session

- **Warm-Up:** 5-10 minutes of light walking or seated arm circles
- **Strength Training:** 10-15 minutes of sit-to-stand, leg extensions, resistance band exercises
- **Balance Training:** 10-15 minutes of single-leg stand, heel-to-toe walking
- **Cool-Down:** 5 minutes of stretching for legs and back

4. Evidence-Based Programs

Program	Duration	Focus	Availability
Tai Chi for Arthritis	8-12 weeks	Gentle movements for balance and strength	Community centers
Matter of Balance	8 weeks	Reducing fear of falling, increasing activity	Senior centers
Stepping On	7 weeks	Balance, strength, home safety education	Community programs

Safety Guidelines and Precautions

Essential Safety Measures

- **Consult a Professional:** Always check with a doctor or physical therapist before starting, especially if you have weak balance or chronic conditions
- **Supervision:** Have someone nearby or use support (e.g., chair, counter) when starting exercises
- **Environment:** Ensure a clear, hazard-free space for exercising
- **Progress Gradually:** Start with easier exercises and increase difficulty only when confident

Expected Outcomes

- **Muscle Strength:** Improved leg and trunk strength, measurable by Chair Stand Test (≤11.1 seconds indicates very good strength)
- **Mobility:** Enhanced balance and walking ability, reducing fall risk
- **Psychosocial Benefits:** Increased confidence and reduced fear of falling, improving quality of life
- **Fall Reduction:** Multi-component programs reduce fall rates significantly

Research Sources and Evidence

Key Studies Referenced:

- *Factors Affecting One-year Mortality of Elderly Patients After Surgery for Hip Fracture - ScienceDirect*
- *One-year mortality after hip fracture surgery and prognostic factors: a prospective cohort study - Scientific Reports*
- *The 1-Year Mortality of Patients Treated in a Hip Fracture Program for Elders - PMC*
- *Johns Hopkins Medicine: Fall Prevention Exercises*
- *CDC: Physical Activity Guidelines for Older Adults*
- *Frontiers in Public Health: Effectiveness of Exercise Interventions on Fall Prevention*
- *BMC Geriatrics: Fall Prevention Exercise Program*
- *National Council on Aging: Evidence-Based Falls Prevention Programs*

Document compiled from evidence-based research studies and clinical guidelines.

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hello@sundaycaretherapy.com | *0203 488 738816*