

REHABILITATION MANUAL OF ANKLE

FOR AUTOLOGOUS ADULT LIVE CULTURED CHONDROCYTES (CARTIGROW™)

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INTRODUCTION

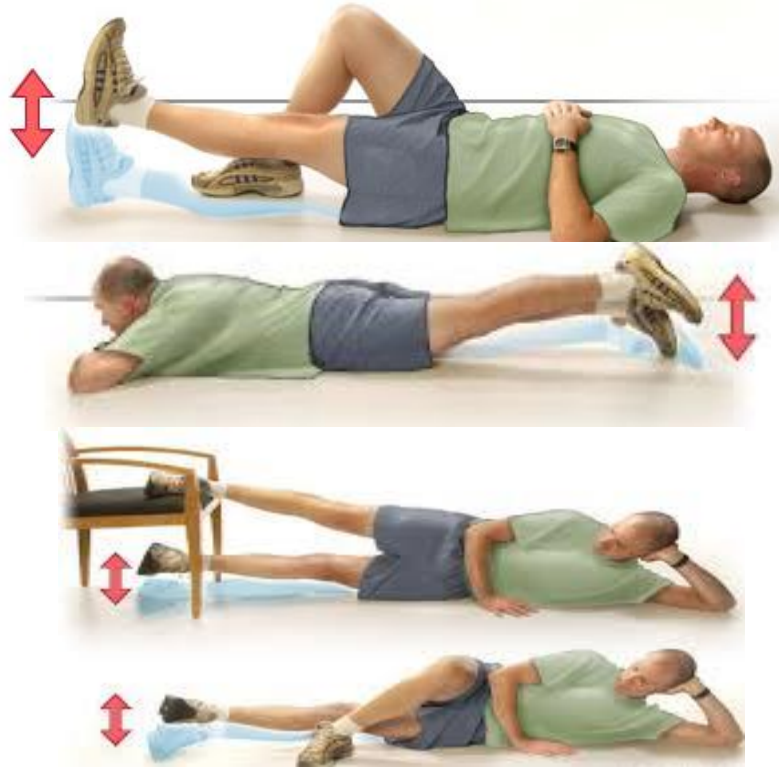
- The rehabilitation guidelines are presented here in a criterion based progression.
- Specific time frames, restrictions and precautions are given to protect healing tissues and the surgical repair/reconstruction.
- Post-operative rehabilitation will focus on regaining range of motion and allowing the cartilage regeneration.
- As rehabilitation progresses, the focus shifts progressive weight bearing, regaining strength, flexibility and movement control.
- General timeframes for the average rehabilitation are given here but individuals will progress at different rates depending on their age, associated injuries, pre-injury health status, rehabilitation compliance and injury severity.

PHASE I (1 WEEK AFTER SURGERY)

REHABILITATION PLAN

Goals:

- Decrease pain, edema.
- Gait non-weight bearing X 4 weeks.
- Range of motion as per doctor advise..



Weight bearing

Non-weight bearing until the first visit following surgery with surgeon

Range of motion

CPM at home for at least 6 hours a day

Brace

Taping/ compression wrap/ ankle bracing, crutches if needed.

Strengthening Program

- Lower extremity non-weight bearing strengthening exercises i.e. lying, seated and standing straight leg raise exercises, isometrics, well-leg stationary cycling, upper body conditioning

- Foot/ankle exercises consisting of intrinsic muscle strengthening i.e to flexion/extension, arch

Activities

Icing and elevation every 2 hours for 15 minute sessions during wake hours.

PHASE II (2-4 WEEKS POST-OPERATIVE)



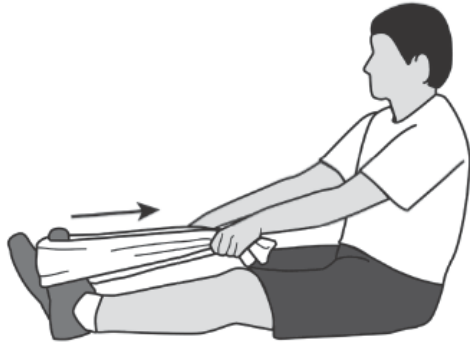
Goals:

- Decrease pain and edema.
- Gait non-weight bearing X 4 weeks.
- Range of motion restrictions as per doctor advise.

Rehabilitation Plan

Weight bearing	Range of motion	Brace	Strengthening Program	Activities
<ul style="list-style-type: none"> • Non-weight bearing 	<ul style="list-style-type: none"> • No range of motion exercise until advised by doctor 	<ul style="list-style-type: none"> • Not required. 	<ul style="list-style-type: none"> • Non-weight bearing aerobic exercises i.e. unilateral cycling • Bilateral cycling after 3 weeks with light to no resistance, slow cadence • Continue non-weight bearing strengthening exercises, 1 legged planks, glut exercises, side planks. 	<ul style="list-style-type: none"> • Bilateral cycling with light to no resistance

PHASE III (4-6 WEEKS POST-OPERATIVE)



Goals:

- Gait partial weight bearing to full weight bearing per quality.
- Range of motion 80% of non-surgical limb

REHABILITATION PLAN

Weight bearing

- Partial weight bearing & discontinue use of splint, if any

Range of motion

- 80% ROM of non-surgical limb

Brace

- Not required.

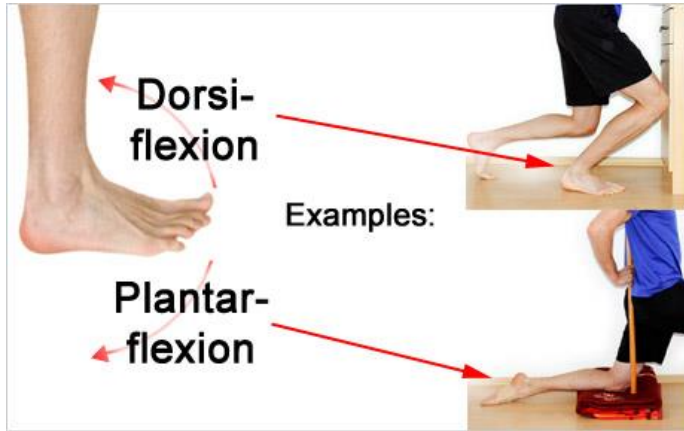
Strengthening Program

- Incorporate functional exercises i.e. squats, lunges, leg press, calf exercises
- Balance/proprioception exercises
- Progress stationary cycling

Activities

- Slow to rapid walking on treadmill (preferably low impact treadmill)
- Pool/deep water workouts after incisions closed with splint.

PHASE IV (6-8 WEEKS POST-OPERATIVE)



Goals:

- Full ROM.
- Full weight bearing, good gait mechanics.

REHABILITATION PLAN

Weight bearing

Full weight bearing, good gait mechanics

Range of motion

- Full ROM

Brace

- Not required.

Strengthening Program

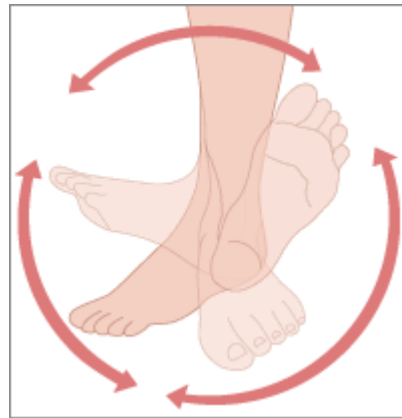
- Stretch cord exercise, weightlifting exercise with increased weight
- Side stepping, Theraband resisted side stepping
- Plantar flexion, dorsiflexion

Activities

- Road cycling on flat surfaces as tolerated, short distance to start

PHASE V (8-12 WEEKS POST-OPERATIVE)

REHABILITATION PLAN



ABC Exercise



Goals:

- Complete and pass sports test at 12 weeks.
- No high impact activities unless approved by doctor.

Weight bearing

Full weight bearing

Brace

Not required

Activities

- Return to participate in sport activity.
- Jogging progression.

Range of motion

Full range of motion.

Strengthening Program

- Inversion/eversion exercises
- Sports activity specific training
- ABC.. exercise

PHASE VI (12-16 WEEKS POST-OPERATIVE)

REHABILITATION PLAN



Goals:

- No high impact activities unless approved by doctor.

Weight bearing

Full weight bearing

Brace

Not required

Activities

- Low impact type Cardio-swimming, cycling, elliptical etc.

Range of motion

Full range of motion.

Strengthening Program

- Continue with strengthening, endurance, balance and sports specific training

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