



ROLE OF PHYSIOTHERAPIST IN PAIN MANAGEMENT



PAIN FREE PROGRAMME | KEMENTERIAN KESIHATAN MALAYSIA | UNIT AUDIT KLINIKAL

INTRODUCTION

Physiotherapist plays an important role in the management of Acute & Chronic pain that includes planning and promoting preventive strategies to avoid any unlikely complication in functional activities



PHYSIOTHERAPY MANAGEMENT IN ACUTE PAIN

Objectives:

- To reduce pain
- To promote relaxation
- To enhance functional ability
- To minimize progression to Chronic pain

PHYSIOTHERAPY MANAGEMENT IN CHRONIC PAIN

Objectives:

- To empower coping mechanism
- To empower functional mobility
- To promote relaxation
- To inhibit prolong immobility
- To prevent flare up
- To improve quality of life

ROLE OF PHYSIOTHERAPIST

1. Assisting patients to reduce pain
2. Preventing acute & subacute painful conditions from developing into chronic pain
3. Improving quality of life
4. Assisting patients to live with chronic pain



ASSESSMENT

1. Commence treatment after assessing the patient. Take into account that the patient's stamina may be reduced
2. Consideration of multipathology by identifying actual and potential limitations to function, including pain & other problems of musculoskeletal, respiratory, circulatory etc

ASSESSMENT

3. Consider the safety of the patient & carers by providing education & training on the safe movement & ways of handling patient
4. Planning treatment program according to the capabilities of the patient (individualized exercise program)
5. Discharge care plan & Home exercise program



PAIN PHYSIOTHERAPY TREATMENT

Physiotherapist will take a holistic approach to treatment of the body addressing the underlying factors contributing to aches & pains



PAIN TREATMENT

▪ Therapeutic Exercise	▪ Manual Therapy
▪ POLICE & PRICE regime	▪ Ergonomic & Posture awareness
▪ Relaxation	▪ Bandaging & Strapping
▪ Positioning	▪ Hydrotherapy
▪ Deep Breathing Exercise	▪ ERAS
▪ Electrotherapy	▪ Patient education
▪ Dry Needling	▪ Home Exercise Program

THERAPEUTIC EXERCISES

- Physiotherapist will prescribe individual therapeutic exercises that include movements & physical activities to restore function & flexibility, improve strength & decrease pain
- Exercises improves in pain, strengthen & improves flexibility among patients with lower limb osteoarthritis (Uthman et. al., 2013)



STRETCHING EXERCISE



Backward stretch



Calf stretch

MOBILISING EXERCISE



Mobilising exercise with stick



Trunk Mobilising exercise

STRENGTHENING EXERCISE



Strengthening exercise with theraband



Hip Strengthening exercise

MANAGEMENT OF ACUTE INJURY

POLICE Regime

PRICE Regime

Protection
Optimum loading
Ice
Compression
Elevation

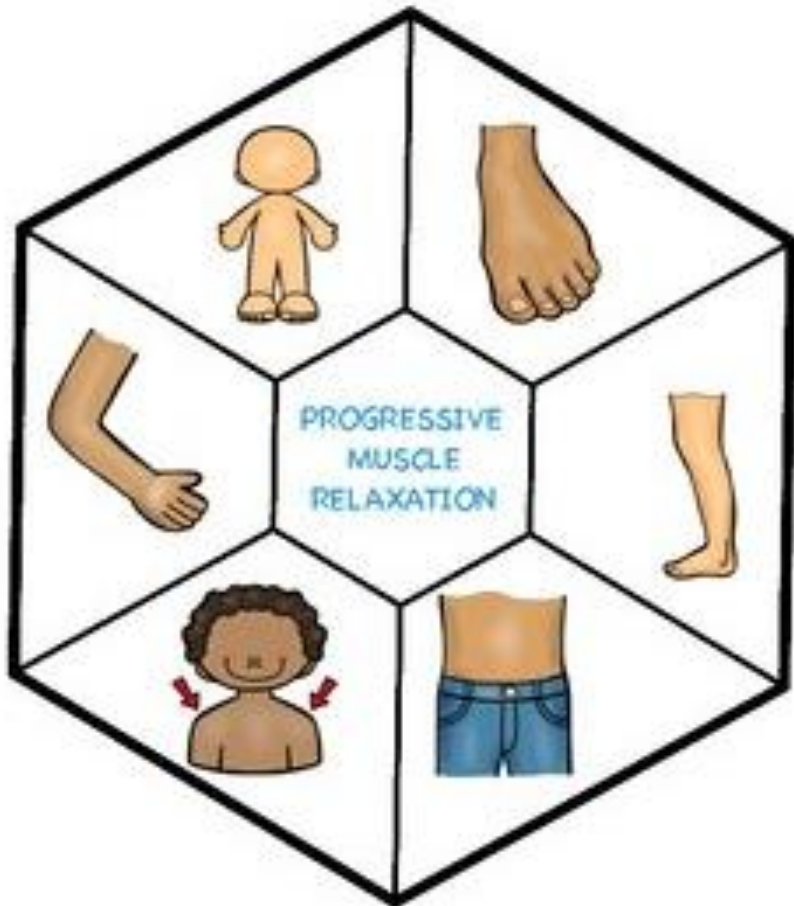
Protection
Rest
Ice
Compression
Elevation

RELAXATION

- Is one of the non-pharmacological treatment which is increasingly accepted as an intervention for pain reduction & pain coping (Bushnell et. Al., 2013)
- Practicing relaxation techniques is associated with reduced blood pressure, oxygen uptake, respiratory frequency, heart frequency & muscle tension (Benson 2000, 2010)
- There were several different types of relaxation techniques, such as breathing techniques, visualization, meditation & progressive muscle relaxation (Payne and Donaghy, 2010)

PROGRESSIVE MUSCLE RELAXATION

SQUEEZE, COUNT TO 5, RELAX



Positioning for patient with back pain

DIAPHRAGMATIC BREATHING EXERCISE



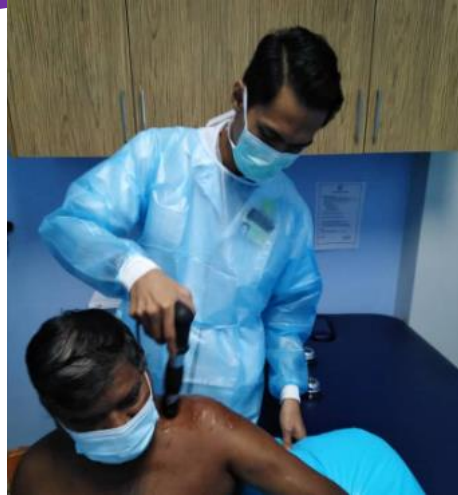
ELECTROTHERAPY

- Electrotherapy are non-invasive methods for relieving pain
- Benefits:
 - Relaxation of muscle spasm
 - Reduce pain
 - Re-education of muscles using targeted stimulation
 - Facilitation of wound healing

ELECTROTHERAPY

- **Modalities:**
 - Extracorporeal shock wave therapy (ESWT), Ultrasound, TENS, Interferential therapy, Laser therapy, Infra red ray, Short wave diathermy
- **Krishnan et. Al., 2012 – patient with chronic plantar fasciitis reported more satisfaction in term of pain & function (ESWT)**
- **TENS effectively reduce pain among subacromial impingement patients (Kocyigit et. Al., 2012) & has potential for reducing phantom pain & stump pain at rest and on movement (Mulvey et. Al., 2013)**

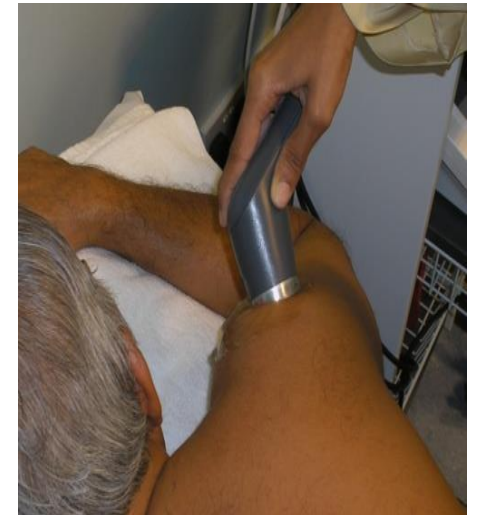
ELECTROTHERAPY MODALITIES



Extracorporeal Shock Wave Therapy (ESWT)



Ultrasound



TRANSCUTANEOUS ELECTRICAL NERVE STIMULATION (TENS)





Interferential Therapy



Infra Red Ray



Laser Therapy



Short Wave Diathermy

THERMAL AGENT

Hot Pack



Wax bath





Cryotherapy



Cryotherapy by air



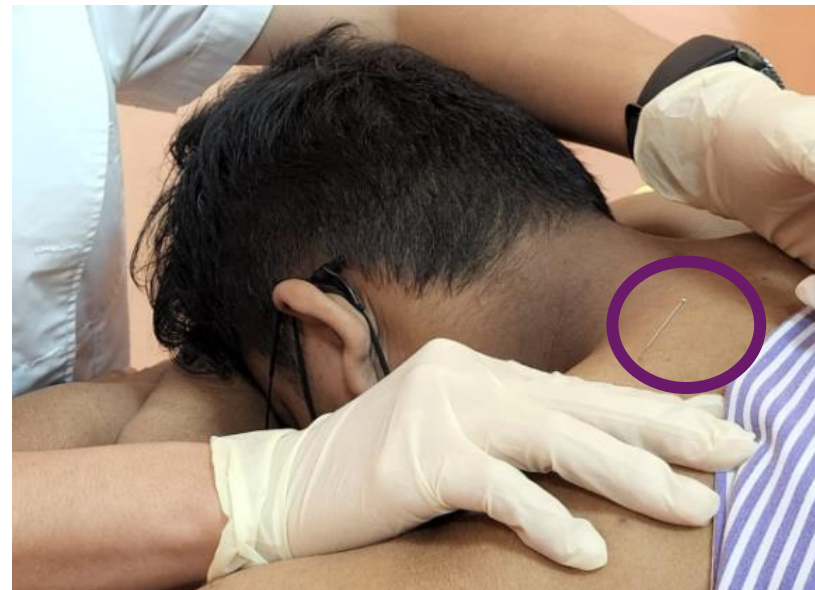
Ice pack



Ice massage

DRY NEEDLING

Is a skilled intervention using a thin filiform needle to penetrate the skin that stimulates myofascial trigger points, muscles, and connective tissue for the treatment of musculoskeletal pain disorders (APTA: Alexandra, 2013)



MANUAL THERAPY

- Correction of physiological impairments allows fearless, pain free movements that facilitate the relearning of pain free memories of movements
- It can be applied to joints, muscles / nerves

MANUAL THERAPY

- Aims of treatment include:
 - Pain reduction
 - Increasing range & quality of joint movement
 - Improving nerve mobility
 - Increasing muscle length
 - Restoring normal function
- Reduced pain for nonspecific neck pain (Vincent et. Al., 2012)
- Reduced pain, improved physical function & nerve conduction for Carpal Tunnel Syndrome patient (Sandra JDB et. al., 2021)

MANUAL THERAPY



Joint Mobilization



Spinal Manipulation



Myofascial release



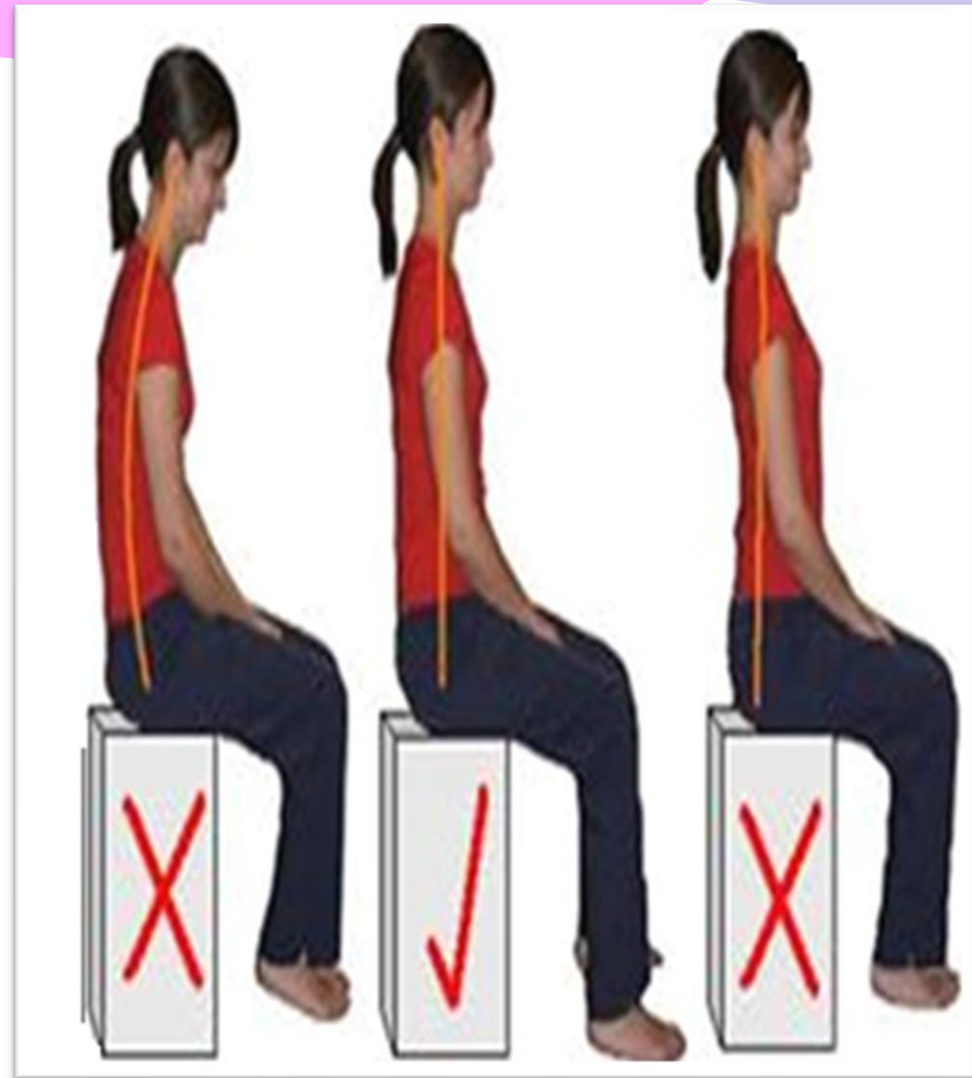
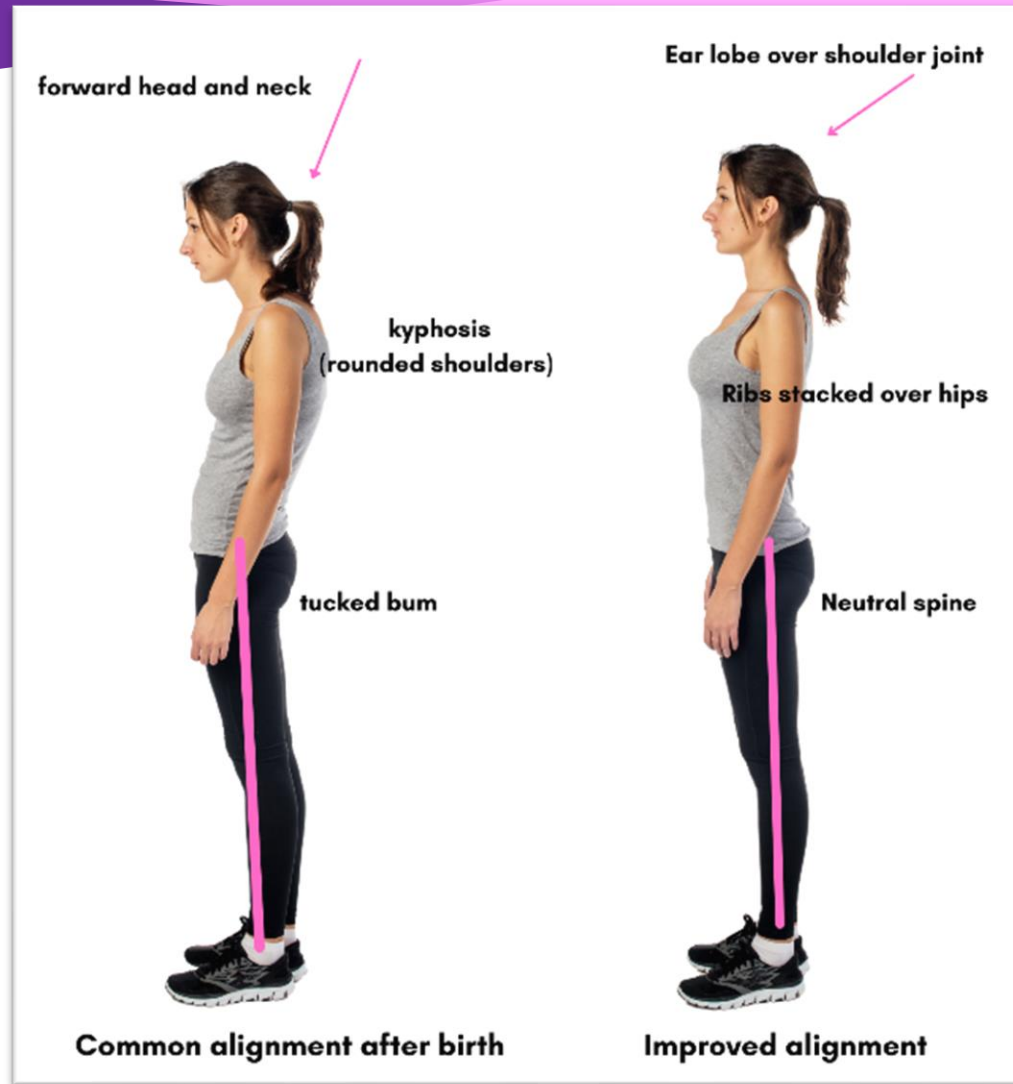
Soft Tissue Manipulation

MANUAL LYMPHATIC DRAINAGE

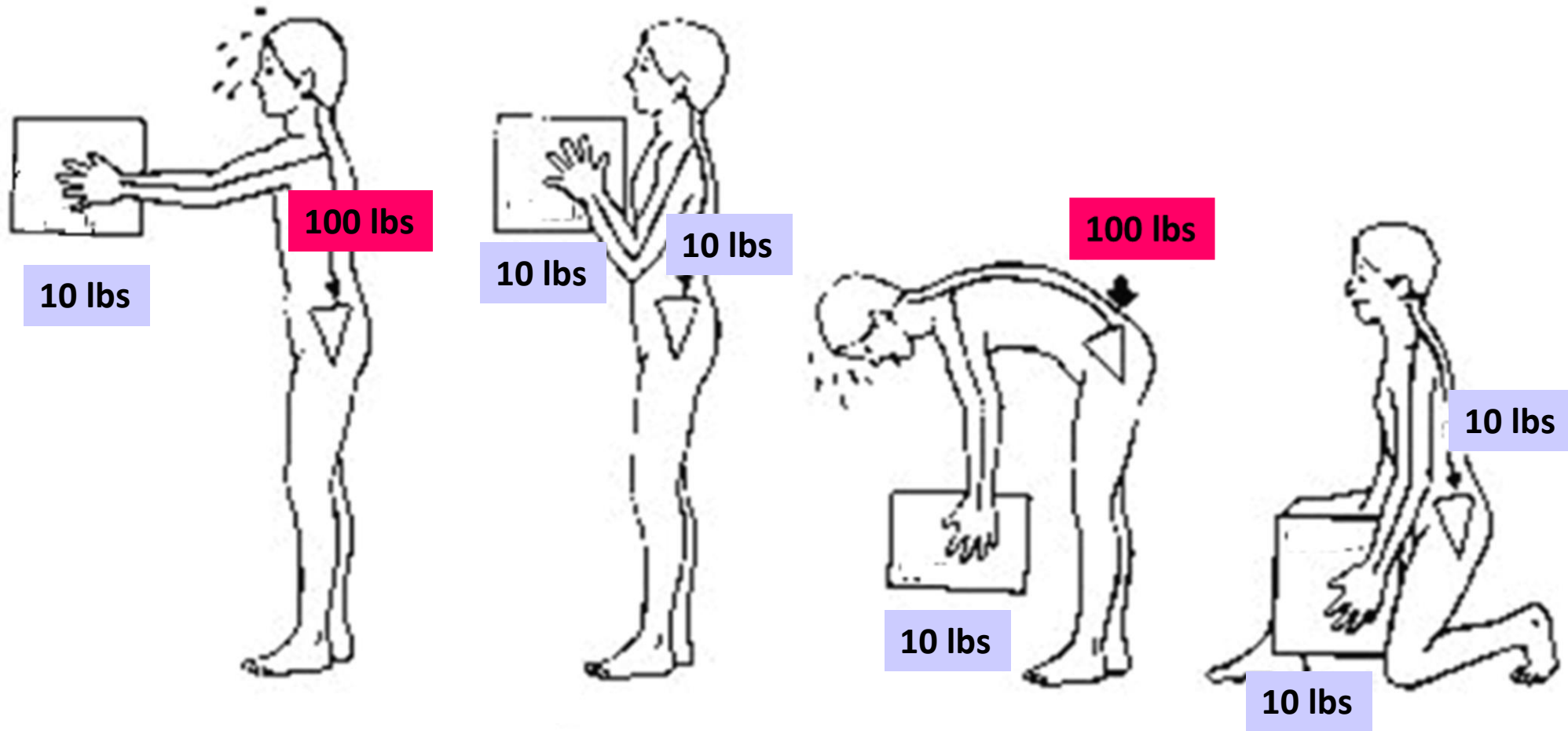
- Are designed to increase the movement of lymph & interstitial fluid
- Benefits:
 - Soothing effect
 - Analgesic effect
 - Reduce swelling
- Like K and Murat E (2019) - MLD increased pain threshold and pain tolerance



ERGONOMIC POSTURE AWARENESS



KEEP WEIGHT CLOSE TO BODY

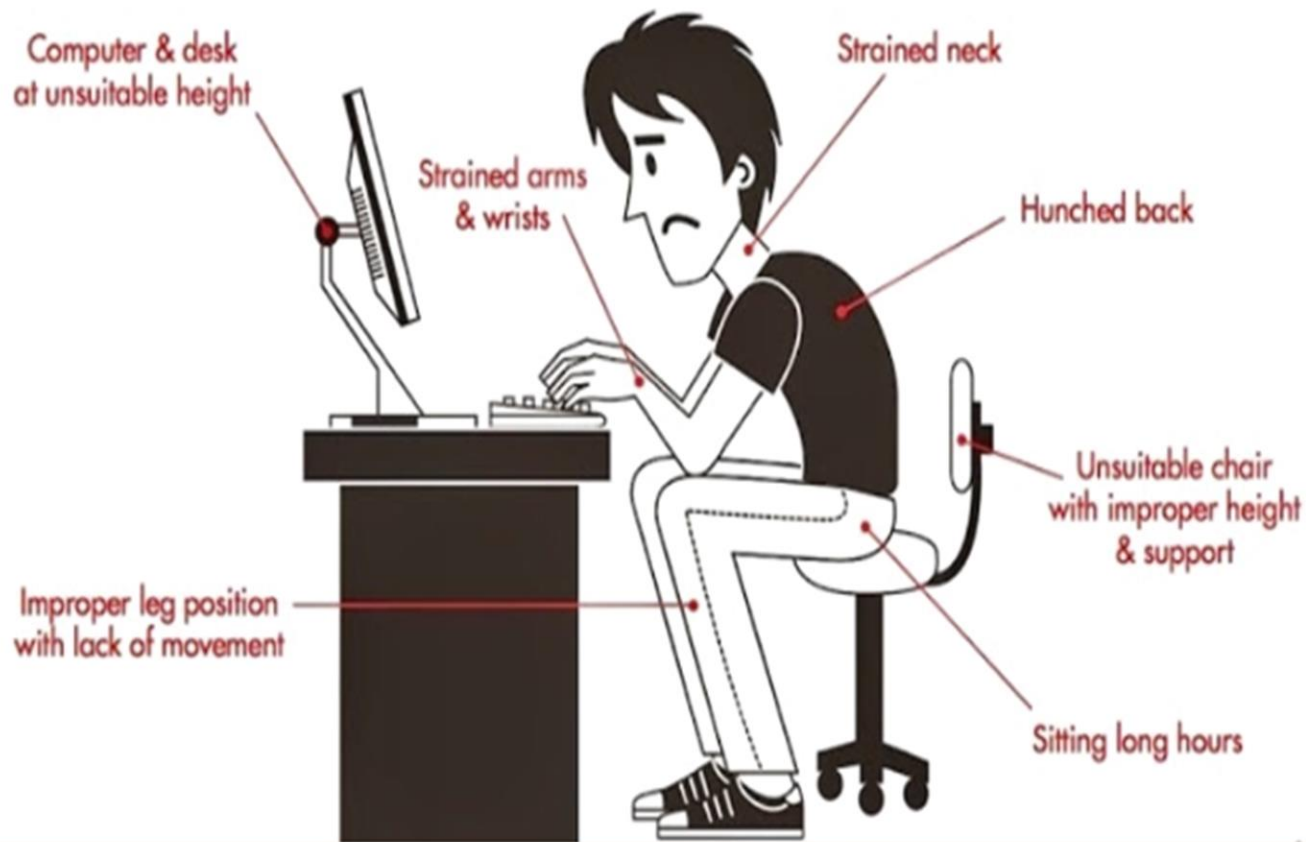


PROPER LIFTING TECHNIQUE

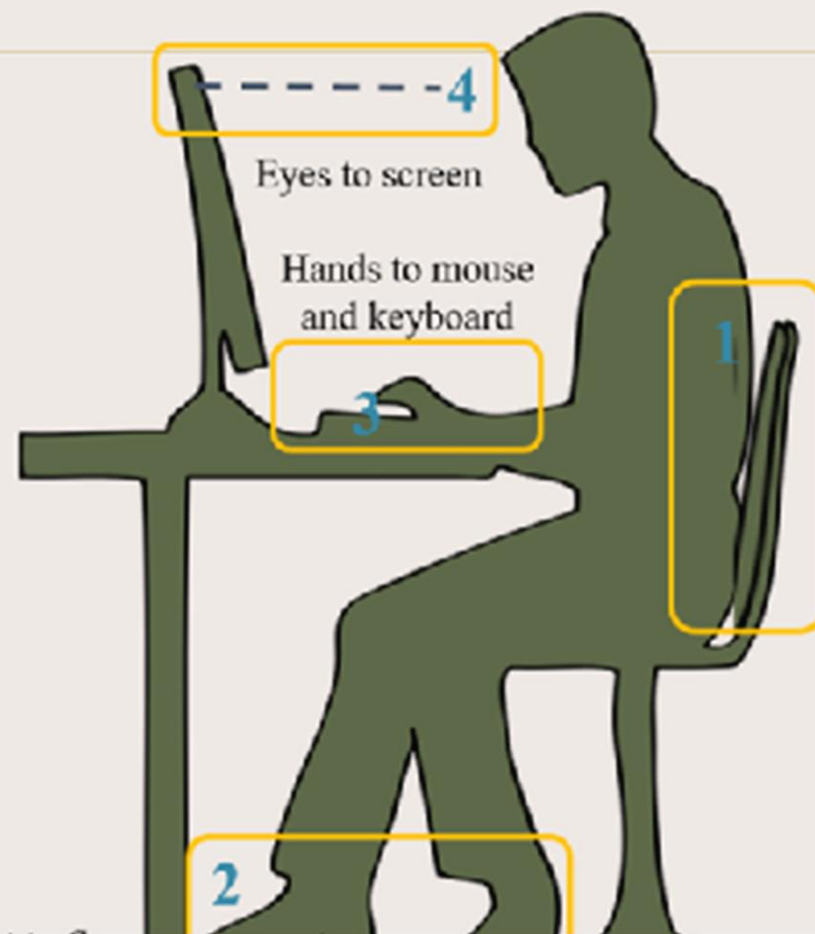


WORKING POSTURE

POOR WORKSTATION ERGONOMICS



Four areas of focus



BANDAGING



- **Helps to reduce swelling & pain** (Rod B, 2021)
- Abdelhamid R.R Aboalasaad et. al., 2018 – compression bandaging can improve muscle function, which might enhance walking performance & reduce muscle fatigue

TAPING

- Is a rehabilitative technique used to facilitate the body's natural healing proses while providing support & stability to muscles & joints, without restricting their range of motion
- Used in musculoskeletal & neuromuscular problems
- Is found to be effective in reducing low back pain (Kim T & Melita P, 2017), & showed good prognosis in managing pain during the acute phase (Mostafavivar et. Al., 2012).



HYDROTHERAPY

- The buoyancy of the water places less stress on the joints & the warm water relaxes tense muscles & improves range of movement
- The hydrostatic pressure of the water helps to reduce swelling & post exercise pain



HYDROTHERAPY

- The benefits of Hydrotherapy including:
 - Reduced pain & stiffness
 - Improved joint range of movement
 - Increased muscle strength
- Improved in pain reduction for elderly patients with knee osteoarthritis (Lau et.al., 2013), effective for patients with Chronic low back pain (Peng MS et. al., 2022)



WHIRLPOOL

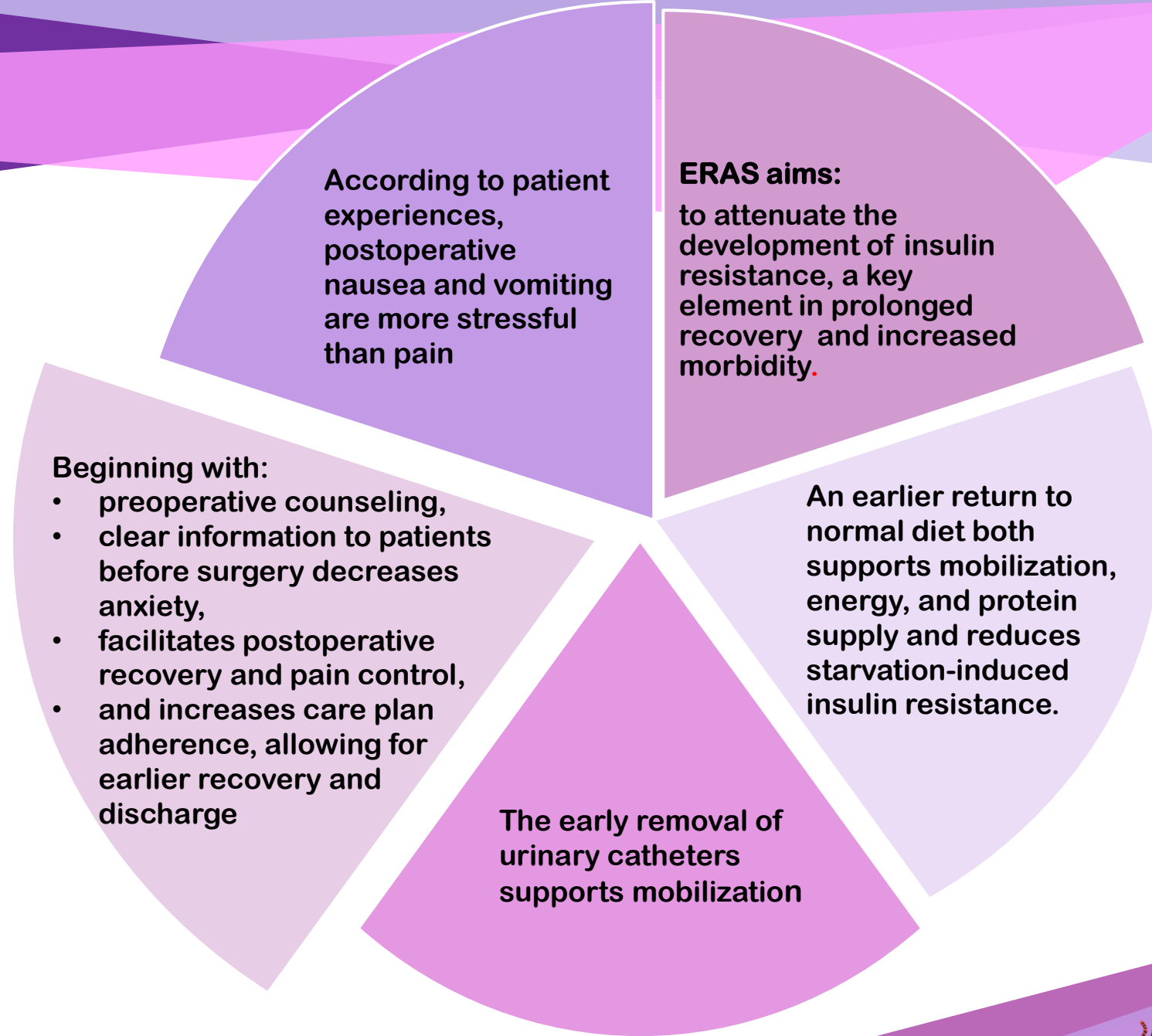
- A whirlpool is used to help improve circulation, mobility, & comfort after an injury / after surgery
- Goals include:
 - Reduce pain
 - Reduce swelling
 - Reduced muscle spasm
 - Control inflammation
 - Improve motion

(Brett S, 2020)



ENHANCED RECOVERY AFTER SURGERY (ERAS)

- Is an evidence-based multimodal perioperative protocol focused on stress reduction & promotion of a return to function (Patel et. Al., 2014)
- Proven to lower both recovery time & postoperative complication rates while being-cost effective at the same time (Melnik et. Al., 2013; Pedziwiatr et. Al., 2016)
- It fundamentally shifts the traditional patient care in surgical wards to one that standardizes it based on published evidence (Ljungqvist, 2014)



PHYSIOTHERAPY & ERAS

The role of physiotherapy within ERAS pathways is important in both preoperative (Prehab) and postoperative (Rehab) routines

Implementing a preoperative strength program has been shown to promote musculoskeletal improvements in preparation for a forthcoming physiological stressor

(Carli et al. 2010)

Postoperative exercise program are also recommended by ERAS guidelines, promoting muscle hypertrophy and the return to function after major surgery

(ERAS Society 2017)



MANAGEMENT OF ACUTE PAIN

- Find a position of comfort that decreases/eliminate the pain
- Use a pain-relieving treatment e.g ice for 10-15 mins
- Use an assistive device e.g crutches/walker if the leg is involved, a sling/splint for the upper extremity/a corset for the back

MANAGEMENT OF CHRONIC PAIN: WHY PATIENT SHOULD EXERCISE WHEN THEY HAVE CHRONIC PAIN

- Improve problems such as inflexibility, loss of mobility/weakness, which contribute to the pain
- Decrease pain by initiating transmission of pain impulses
- Prevent secondary musculoskeletal complications of pain such as further weaknesses, immobility, & flexibility at the other joints

HOW OFTEN & HARD SHOULD THE PATIENT EXERCISE WITH CHRONIC PAIN

1. Ideally, the patient should do something every day, at least once/day.
2. Patient may perform several short bouts of exercise spread throughout the day.
3. Session may be only 5 – 10 mins long.
4. Stretches should be intense enough to feel a gentle pulling sensation.

HOW OFTEN & HARD SHOULD THE PATIENT EXERCISE WITH CHRONIC PAIN

5. Other exercises should be performed slowly until slight fatigue is felt/as instructed by the physiotherapist/doctor.
6. The patient may feel some discomfort during/for a short time after exercise. This discomfort should not be confused with the pain that brought the patient to the clinic.
7. Avoid exercises that increase the pain, but patient may continue to exercise with some of the discomfort.

CONCLUSION

The less you move, the more pain you'll experience. Thus, educate yourself to educate others on your care. Knowing doesn't mean you understand, understand doesn't mean you realize. The more you learn how to exercise to accommodate your pain, the less pain you'll feel and the more you'll be able to function on a daily basis.



THANK YOU



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