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# Role of Physiotherapy in Head & Neck Cancers

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# Role of Physiotherapy:

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# Surgical impact:

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- Scar tissue tightness in neck
- Nerve injury- SAN
- Increased scar sensitivity
- Joint stiffness
- Weakness & Reduced physical activity



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# Radiotherapy: early effects

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Skin inflammation

Skin breakdown

Pain

Swelling

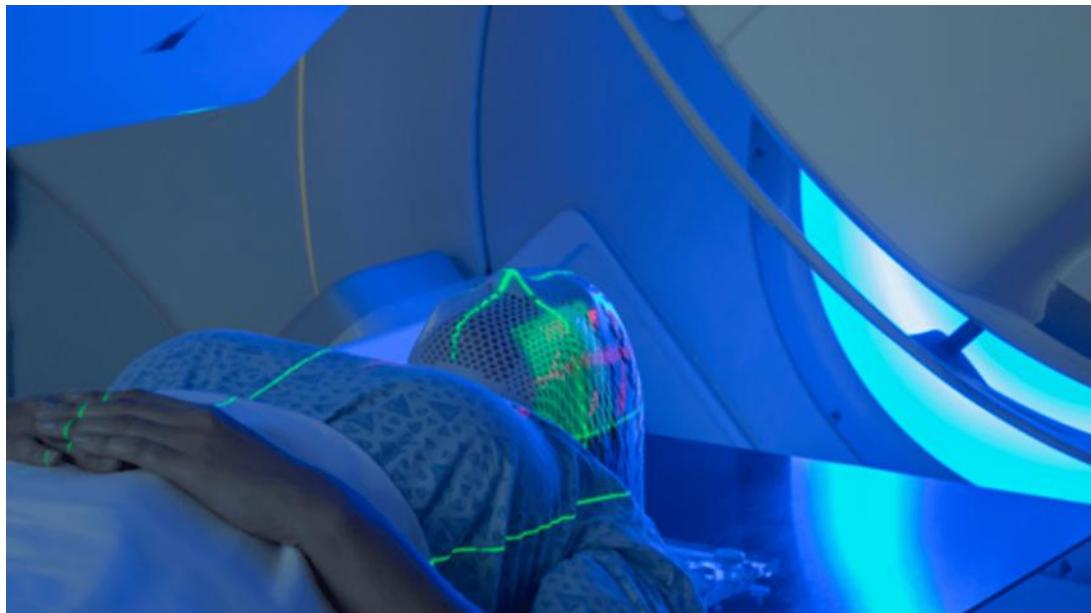
Firmness, hardening

Stiffness

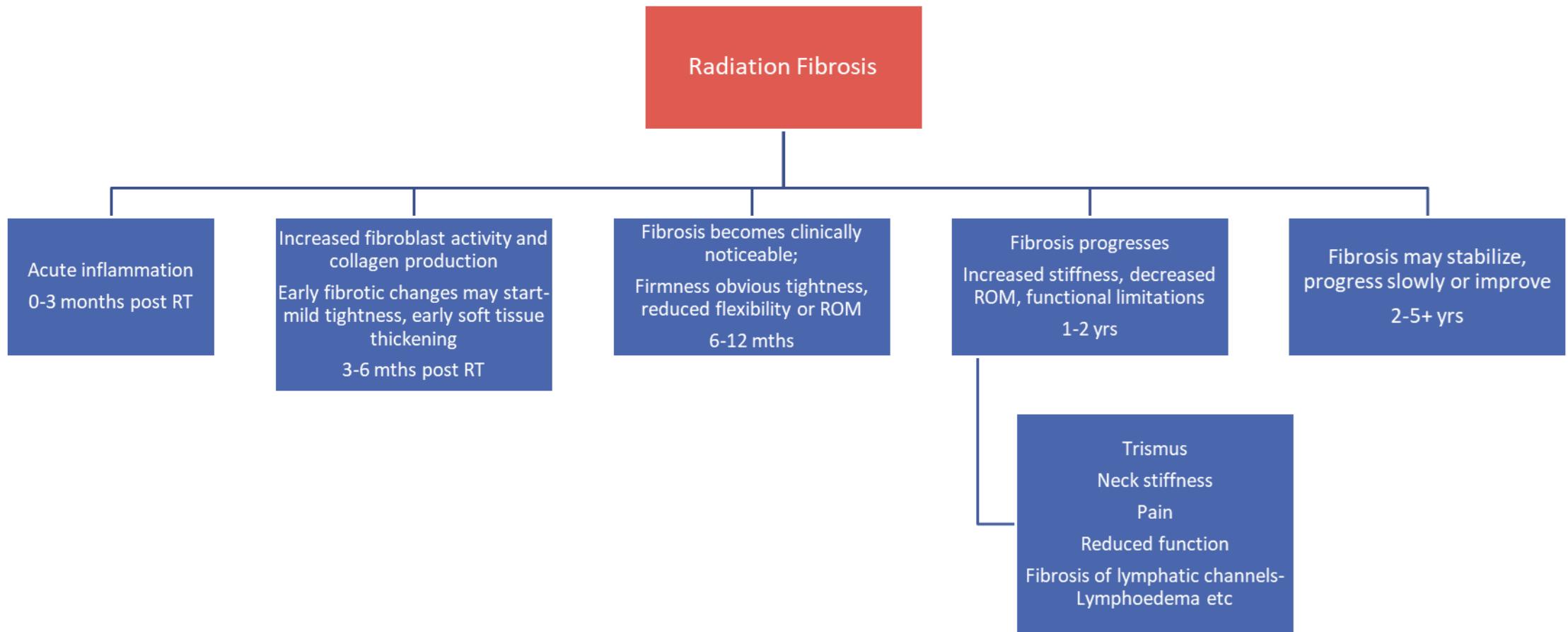
Weakness



# H&N Radiotherapy treatment mask



# Radiotherapy: late effects



# Trismus- Any restrictions to mouth opening

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- Causes:
  - **Tumour itself**- can grow into or near mouth closing muscles, inducing a reflex contraction
  - **Surgery**- Parotidectomy, hemi-mandibulectomy, maxilectomy
  - **RT: Early**- response to inflammation

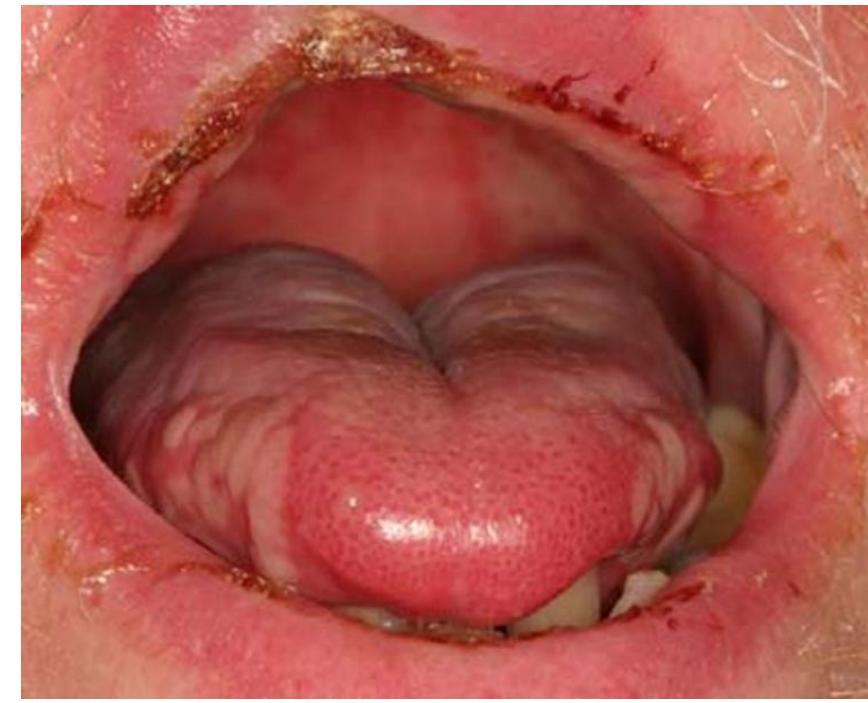
**RT Late**- Fibrosis in the joint and surrounding musculature particularly lat ptergoids

- Prevalence 5-38 % post RT



# Oral Mucositis

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## Impact of Trismus

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- Decreased oral intake and nutrition
- Poor oral hygiene
- Reduced access for oral examination,
- medical and dental procedures (Intub)
- Inability to use dentures or oral/pharyngeal prosthetics
- Speech deficits
- Pain
- Difficulty inserting oral stent for RT



## Intraoral RT Stent- mouthbite

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- Shield, displace and position tissues in an effort to minimize post radiation morbidity.

# Obturator Prosthesis

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Obturator after maxillectomy



# Trismus Management

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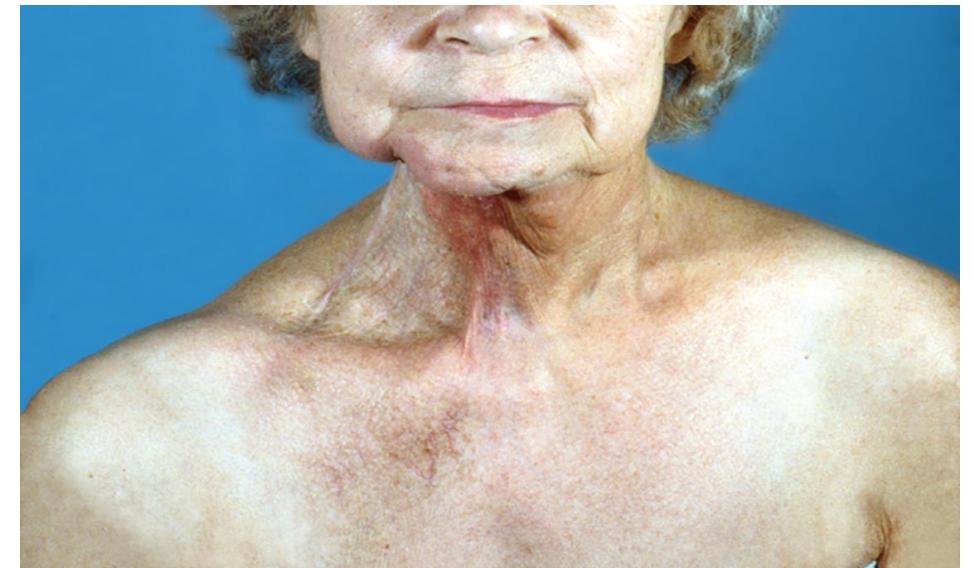
- Prevention
- Active stretches
- Manually assisted stretches
- Tongue depressors
- TheraBite
- Scar tissue management
- Neck stretches



## Neck mvt and function:

- Tightness 2° to scar tissue
- Postural changes
- Excision of Sternocleidomastoid (SCM)
- RT early & late effects

**Management**- Posture, ROM exs, strengthening exs, function, scar tissue massage



# Shoulder Girdle Dysfunction

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Assess for shoulder impairments and activity limitations in patients with nerve-sparing and nerve-sacrifice neck dissections.

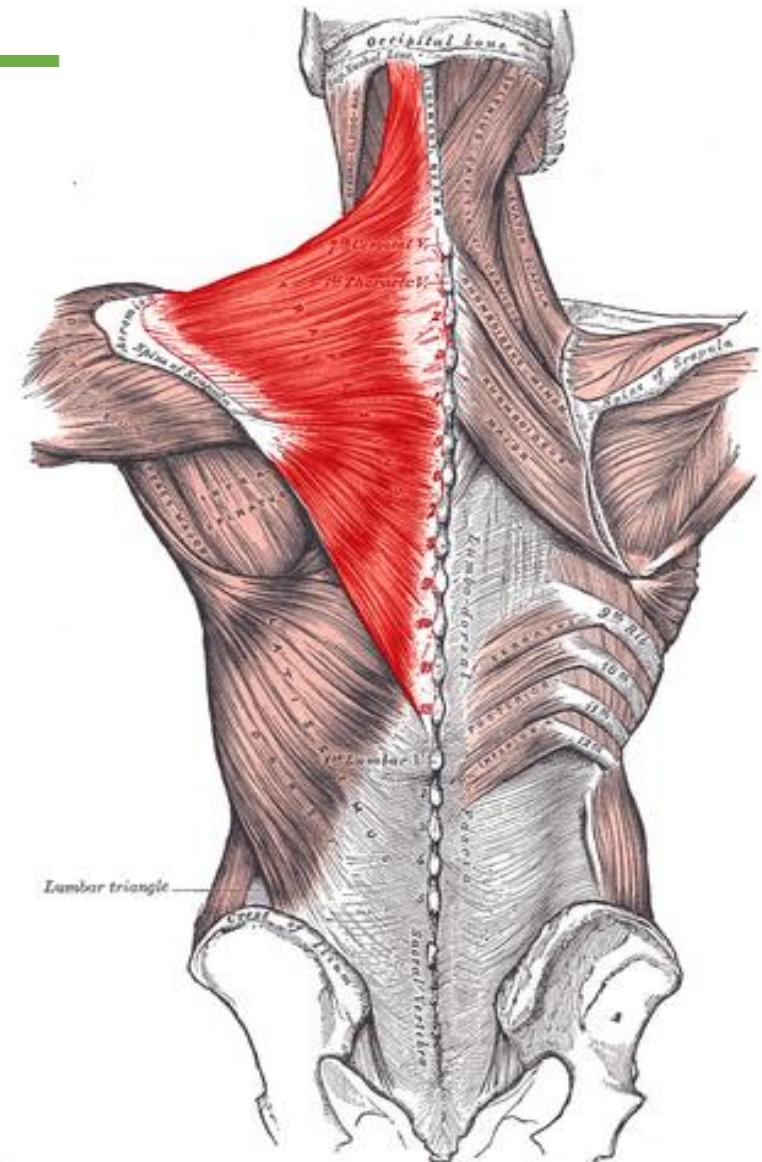
## Spinal accessory nerve



## Spinal Accessory Nerve (CN X1)

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- Innervates the trapezius and sternocleidomastoid muscles in the neck.
  - shrugging the shoulder
  - Hold shoulder girdle up
  - Holds shoulder girdle back
  - Stabilises shoulder girdle during mvt of arm



## Shoulder droop:

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- Shoulder girdle dropped
- Prominent clavicle
- Visible spine of scapula from front view
- Unstable scapula
- Reduced shoulder mvt esp abduction and flexion
- Pain

## SAN Management:

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- Aim to maintain joint ROM
- Maintain any trapezius function
- As nerve regenerates to strengthen trapezius and shoulder girdle
- Postural re-ed
- Functional activities
- Retrain for return to work/activities

## Grafts

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### Radial Free flap

- Wrist stiffness- Extension
- Wrist or hand weakness
- Decreased hand dexterity
- Sensory deficit

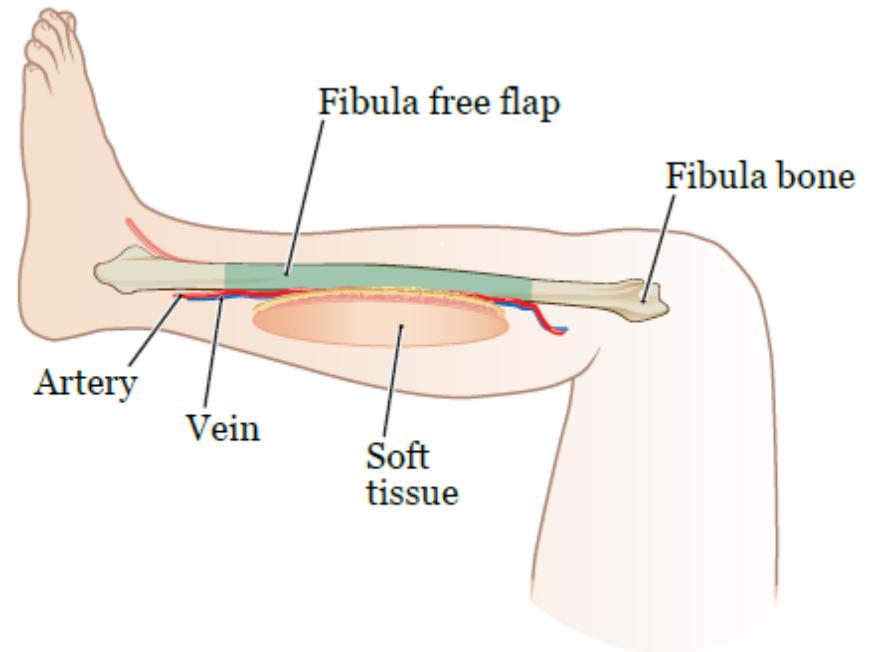


Massage, stretches/exercise, functional use of limb

## Fibular Free Flap donor site

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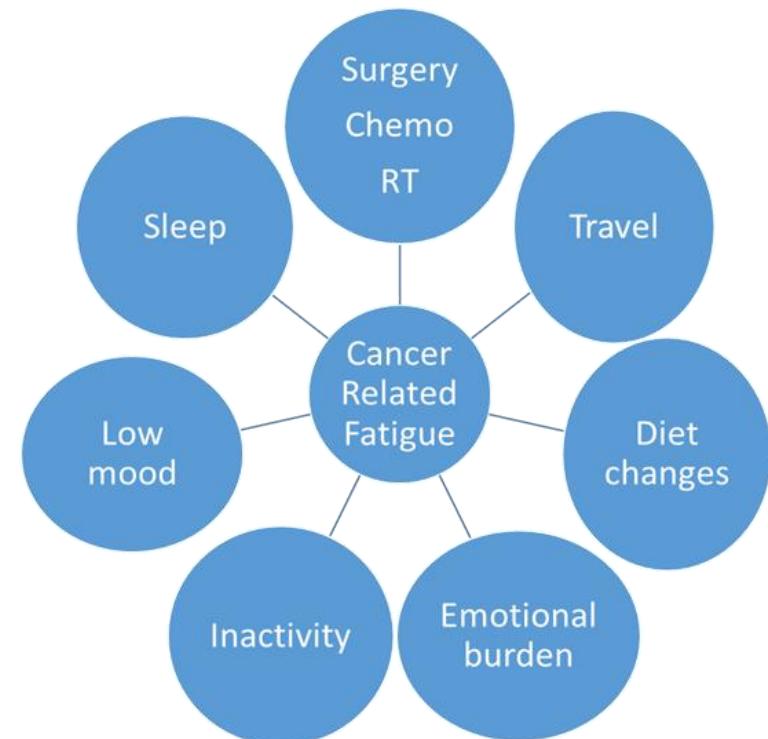
- Fibula normally harvested with a small cuff of soleus and flex hallucis longus
- A length of fibula preserved distally to maintain ankle stability
- Delayed healing
- Extremity swelling, weakness of ankle or foot, reduced balance, impaired gait



- At time RT patients will still have some residual acute “normal” swelling from surgery
- Also normal to have some swelling during and after RT treatment
- Sometimes just a temporary effect of RT
- If lasts more than 8 weeks – early Ax and management
- On treat- Neck ROM exs, jaw and facial exs.
- Rotation and severity of Lymphoedema are linked- encourage Rotation
- Sleeping positions- open posture- wedge pillow, raised head
- Deep breathing- assist lymph flow
- Early referral for Ax and management

# Cancer Related Fatigue

- 80-100% of cancer patients
- Extreme feeling of tiredness or lack of energy
- Everyone's experience is different
- Unlike a normal tiredness not relieved by rest or sleep
- Education+, activity, pacing, planned rest



**“Any activity is better than no activity”**

## PHYSICAL ACTIVITY

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- Rest not always best
- Reduce lean mm mass
- Balance between rest and exercise
- Timely information
- Functionally active

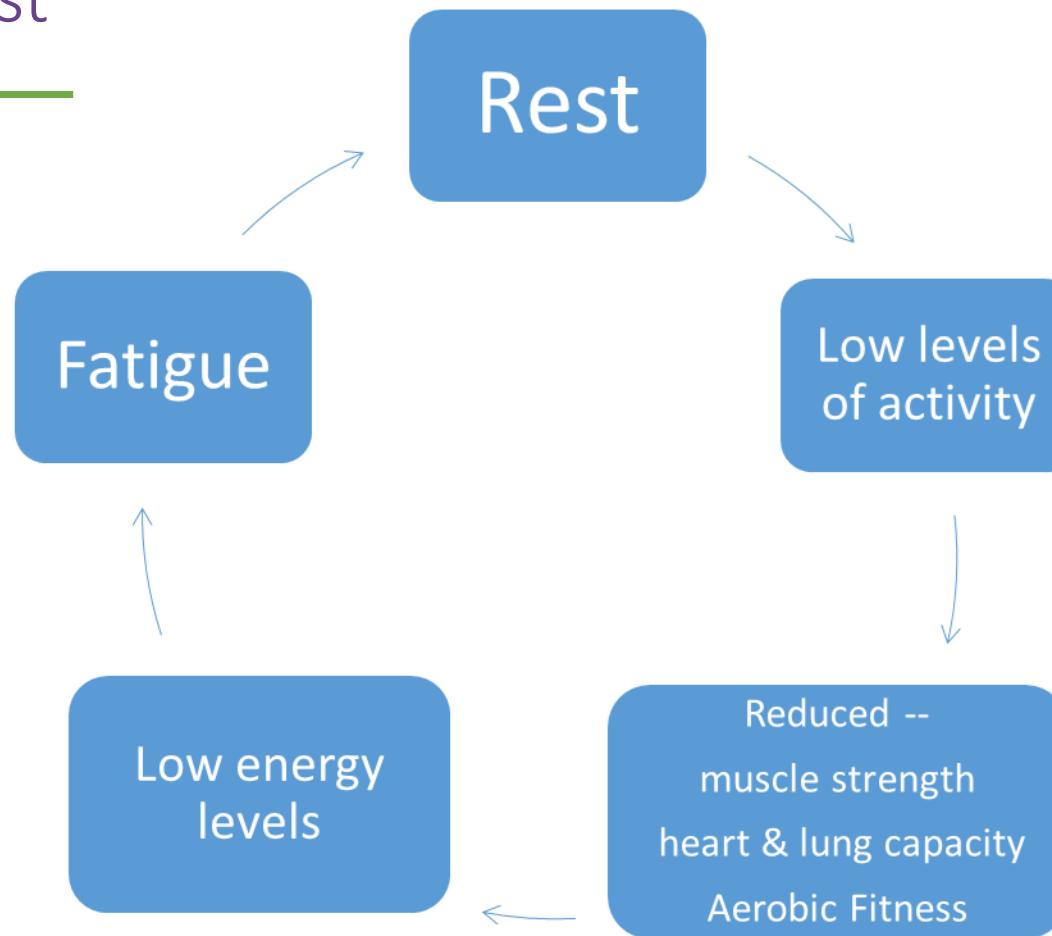
  

- Weight loss as a result of side effects ... Decrease in dietary intake, reduced muscle mass



## Rest is not always best

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- Survivorship begins with our first assessment of the patient
- Return to work
- Return to exercise and leisure activities
- Up to 50% of patients diagnosed with cancer never return to their pre diagnosis level of activity
- Often no good reason for this- fear

Maximising an individuals  
physical and functional outcome  
for QOL into their future.

## Summary

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- Very complex and diverse group of patients
- Early intervention key

Any questions?

