THE UNIVERSITY OF AUCKLAND
Te Whare Wānanga o Tāmaki Makaurau
NEW ZEALAND

Building Confidence in Your Clinical Reasoning

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Interact II: Early Warning Tool

S	Seems different than usual
T	Talks or communicates less
O	Overall needs more help
P	Pain – new or worsening; Participated less in activities
a	Ate less
n	No bowel movement in 3 days; or diarrhea
d	Drank less
W	Weight change
A	Agitated or nervous more than usual
T	Tired, weak, confused, or drowsy
C	Change in skin color or condition
H	Help with walking, transferring, toileting more than usual

https://interact2.net/tools_v4.html

Clinical Communication

S - B - A - R

- Situation – ***the problem***
- Background – ***brief, related, to the point***
- Assessment - ***what you found, what you think***
- Recommendation – ***what you want***

Situation

- The symptom/sign or change I'm calling your about…
- This started…
- This has gotten worse/better/stayed the same since it started…
- Things that make the condition worse…
- Other things that have occurred with the changes…

Background

- Primary diagnosis and/or reason is in care…
- Recent history (eg recent falls, fever, decreased intake, pain, SOB, other)
- Obs: BP, HR, RR, T, SPO2 (room air?)
- Change in function or mobility
- Medication changes in the last 2 weeks
- Mental status changes
- Pain level/location

Background Continued

- GI/GU changes:
  - nausea/vomiting
  - diarrhoea/constipation
  - distention/urinary retention
- Change in intake/hydration
- Change in wound or skin status
- Recent pertinent or abnormal labs
- BSL
- Advanced directives/goals of care
  - comfort care only
  - hospitalisations?
- Have you talked to the family and what are their concerns and what do they want?
- Allergies
- Other pertinent data
  - What have you already tried/done?

Assessment

- RN:
  - I think the problem may be *(e.g. cardiac, infection, respiratory, dehydration , etc.)*

- EN or HCA
  - The resident appears *(e.g.short of breath, in pain, more confused, etc)*

Request

- What do you want from the prescriber?

- Monitor vital signs and further deterioration?
- Lab work?
- X-ray?
- Provider visit ?
- Transfer to the hospital?

Mental Status Evaluation

- Decreased level of consciousness (sleepy, lethargic)
- Increased confusion (disorientation)
- Memory loss (new or worsening)
- New or worsening behavioral symptoms
- New or worsened delusions or hallucinations
- Other symptoms or signs of delirium (e.g. inability to pay attention, disorganized thinking)
- Unresponsiveness

Delirium Assessment

Confusion Assessment Method (CAM)

*The diagnosis of delirium requires presence of **BOTH A and B***

A ☐	**Acute onset / fluctuating Course**	○ Is there evidence of an acute change in mental status form patient baseline. ○ Does the behaviour • Come and go? • Fluctuate during the day ? • Increase / decrease in severity?
B ☐	**Inattention**	Does the patient: ○ Have difficulty focusing attention? ○ Become easily distracted? ○ Have difficulty keeping track of what is said?

Confusion Assessment Method (CAM) (cont)

and the presence of **EITHER C or D**		
C ☐	**Disorganised Speech**	Is the patient's thinking: o Disorganised o Incoherent For example, does the patient have: - Rambling speech / irrelevant conversation? - Unpredictable switching of subjects? - Unclear or illogical flow of ideas?
D ☐	**Altered Level of Consciousness**	Overall is the patients level of consciousness: o Alert (normal) o Vigilant (hyper-alert) o Lethargic (drowsy but easily roused) o Stuperous (difficult to rouse) o Comatose (unrousable)

The rest of the CAM screen

- Disorientation: time, location
- Memory impairment?
- Perceptual disturbances?

  Hallucinations / illusions
- Altered sleep-wake cycle: sleep in day, insomnia at night

Basic Delirium Screen Labs

Midstream urine / urinalysis
Full blood count
Electrolytes + calcium
Renal function
Glucose
Liver function
CRP
Thyroid function
Troponin I (?)
Serum medication levels (eg digoxin, phenytoin)

Pharmacologic treatment

Class & Drug	Dose	Adverse Effects	Comments
Antipsychotic Haloperidol	0.25-1mg BD po with prn doses q4hrly (peak 4-6hrs)	EP symptoms Prolonged QT	Usual agent of choice. Effectiveness demonstrated in RCT Avoid IV
Atypical antipsychotic Risperidone Olanzapine Quetiapine	0.25mg BD 2.5-5mg daily 12.5-50mg daily	EP effects equivalent to or slightly less than Haloperidol Prolonged QT	Tested only in small studies Associated with increased mortality in older people with dementia
Benzodiazepine Lorazepam Temazepam	0.5-1mg, add doses q4hrly as needed Avoid monotherapy	Paradoxical excitation, resp depression, oversedation	2nd line agent Assoc with prolongation, worsening of symptoms Use for withdrawal, Parkinson's

Neurologic History

Dizziness/vertigo: person or environment is spinning

Lightheadedness/faintness: Is it affected by change in position?

Loss of consciousness

Visual disturbances: One or both eyes; constant or intermittent; blurred vision? Double vision?

Wavy appearance of visual images (migraine)

Curtain being drawn over the Visual field (detached retina)?

Rainbows or halos (glaucoma)?

Yellowish hue (digitalis toxicity)?

Motor/sensory/speech losses

Altered mental status (AMS), weakness, sensory loss, incoordination, tremors

Difficulty with speech

Neurologic Assessment Basics

- Symmetrical Facial movements
  - Smile asymmetrical?
  - Eyes move together?
  - Swallowing difficulty?
- Power and strength equal bilaterally
  - Grip strength
  - Upper arm extension/flexion with resistance
- Able to stand – Romberg (cerebella function)
  - Stand on one foot?
- Sensation
  - Numbness? Face, hands or feet?
- Pupils equal and reactive to light

STROKE

F

Face:
SMILE
Is one side droopy?

A

Arms:
RAISE BOTH ARMS
Is one side weak?

S

Speech:
SPEAK A SIMPLE SENTENCE
Slurred? Unable to?

T

TIME:
Lost time could be lost brain

ABCD2 Score

A =	AGE	over 60 years	1
B =	BP	>140/90	1
C =	clinical features		
		unilateral weakness	2
		speech disturbance w/o weakness	1
D =	duration		
		>60 mins	2
		10-59 mins	1
D =	diabetes present		1

Johnston SC, Rothwell PM, Nguyen-Huynh MN, Giles MF, Elkins JS, Bernstein AL, Sidney S. (2007) Lancet, 369, 283-292.

ABCD2 Score and Risk of Subsequent Stroke

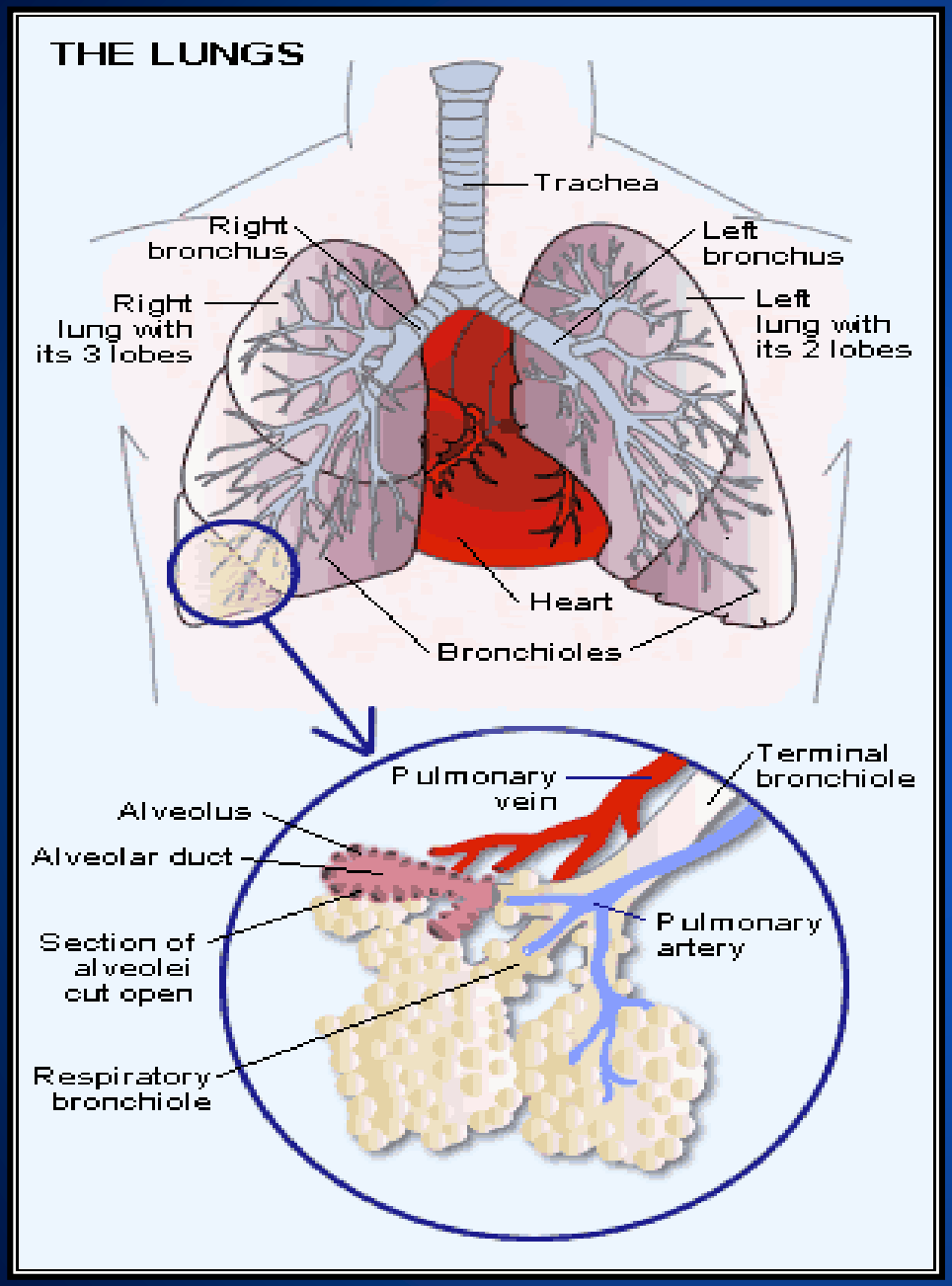
Risk Group	2 day risk (%)	7 day risk (%)	90 day risk (%)
Low (1-3)	1.0	1.2	3.1
Medium (4-5)	4.1	5.9	9.8
High (6-7)	8.1	11.7	18

Pain Assessment

- **Is the pain?**
  - New
  - Worsening of chronic pain
  - Location of pain
  - **Intensity of Pain** *(rate on scale of 1-10, with 10 being the worst)*
  - **Does the resident show non-verbal signs of pain?**

PAINAD score

Items*	0	1	2	Score
Breathing independent of vocalization	Normal	Occasional labored breathing. Short period of hyperventilation.	Noisy labored breathing. Long period of hyperventilation. Cheyne-Stokes respirations.	
Negative vocalization	None	Occasional moan or groan. Low-level speech with a negative or disapproving quality.	Repeated troubled calling out. Loud moaning or groaning. Crying.	
Facial expression	Smiling or inexpressive	Sad. Frightened. Frown.	Facial grimacing.	
Body language	Relaxed	Tense. Distressed pacing. Fidgeting.	Rigid. Fists clenched. Knees pulled up. Pulling or pushing away. Striking out.	
Consolability	No need to console	Distracted or reassured by voice or touch.	Unable to console, distract or reassure.	
			Total**	



Respiratory Assessment

Respiratory Changes

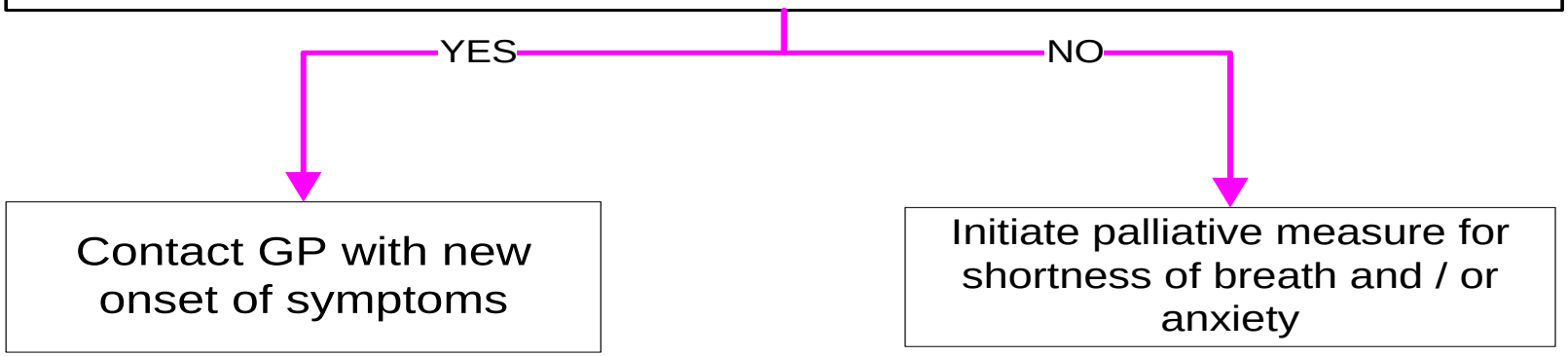
- Abnormal lung sounds
  - *(rales, rhonchi, wheezing)*
- Asthma *(with wheezing)*
- Cough (Non-productive or Productive)
- Inability to eat or sleep due to SOB
- Labored or rapid breathing
- Shortness of breath
- Symptoms of common cold

Pneumonia - Referral

ARE 2 OR MORE OF THE FOLLOWING SYMPTOMS PRESENT?

- New or worsening cough.
- Increased or newly purulent sputum, unable to expectorate?
- New crackles or wheezes heard on chest exam.
- Decline in cognitive (see CAM pg xx), physical or functional status.
- New agitation.
- Fever or hypothermia – ↑↓ from baseline.
- Dyspnoea (difficulty in breathing, SOB).
- Tachypnea (respirations >30/min or 10/min over baseline).
- Chest pain (pleuritic – worse with breathing?).
- New or worsening hypoxaemia (pulse Ox<90%).
- Systolic BP<20 mm/hg from baseline.

If unarousable call ambulance and GP.

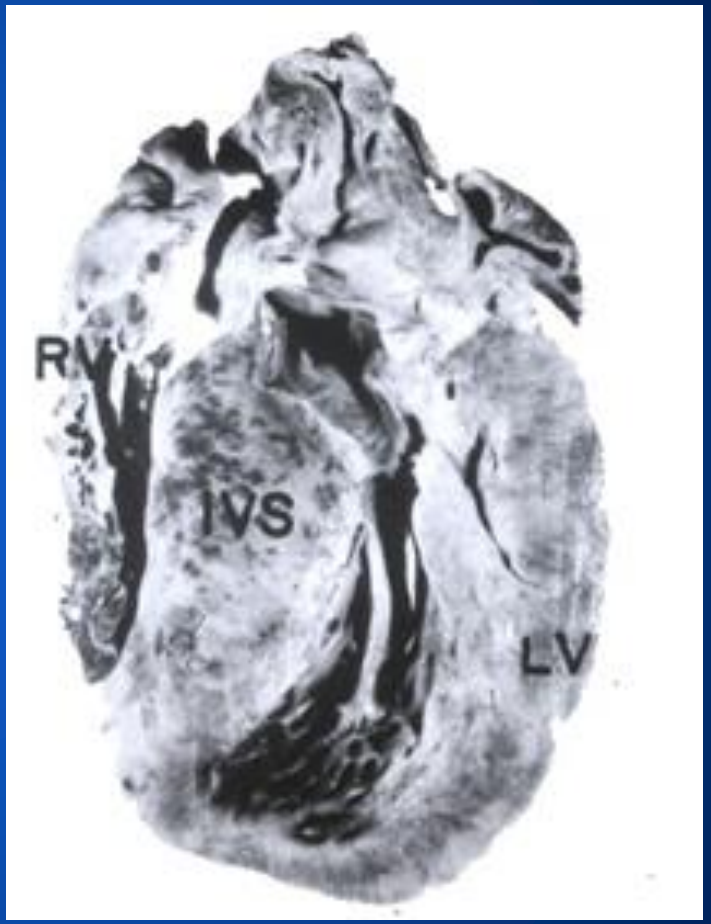


Cardiac Issues

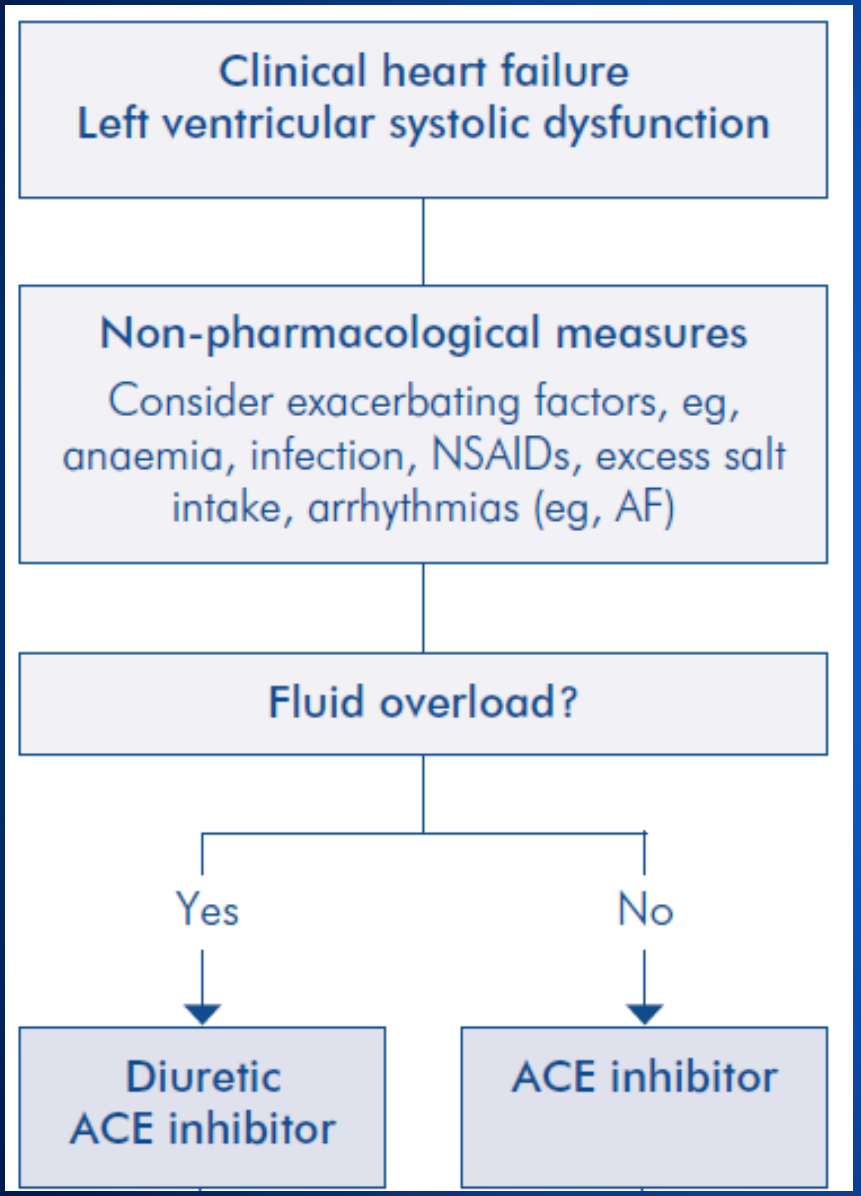
- Chest pain/tightness
- Irregular pulse *(new)*
- Oedema
- Resting pulse >100 or <50
- Inability to stand without severe dizziness or
- lightheadedness

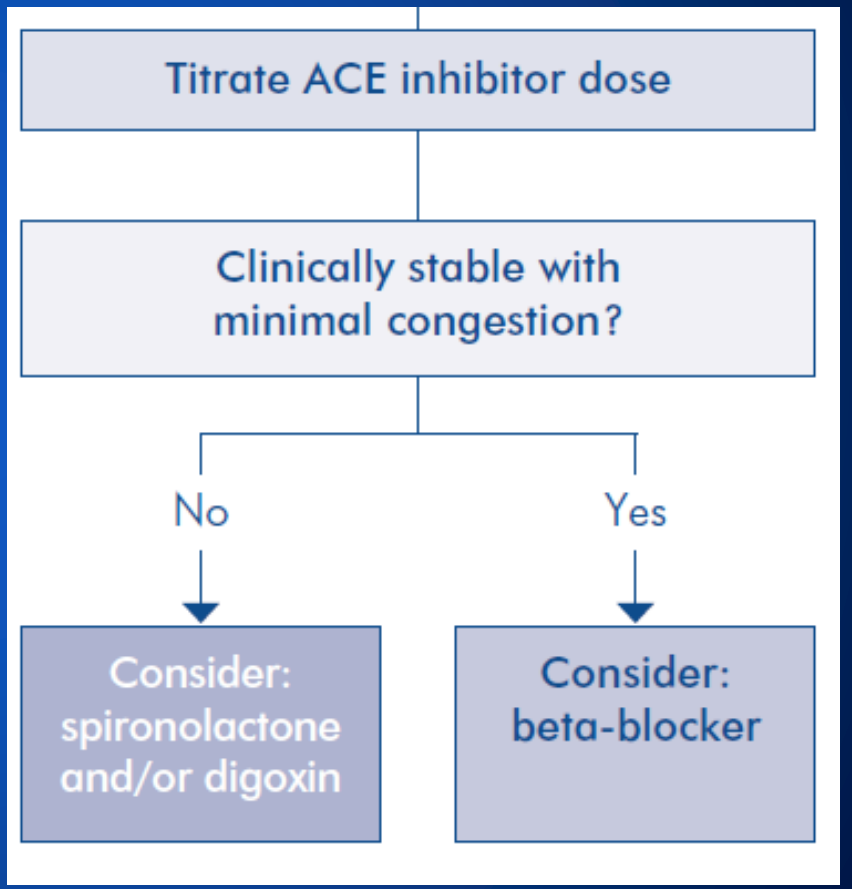
Causes of CHF

- The vast majority of cases of CHF are caused by:
  - MI (70%)
  - Hypertension
  - valvular disease
  - atrial fibrillation.
- Greatest risk factor is age
- Most common reason for hospital admission for elderly patients



CHF Treatment Algorithm

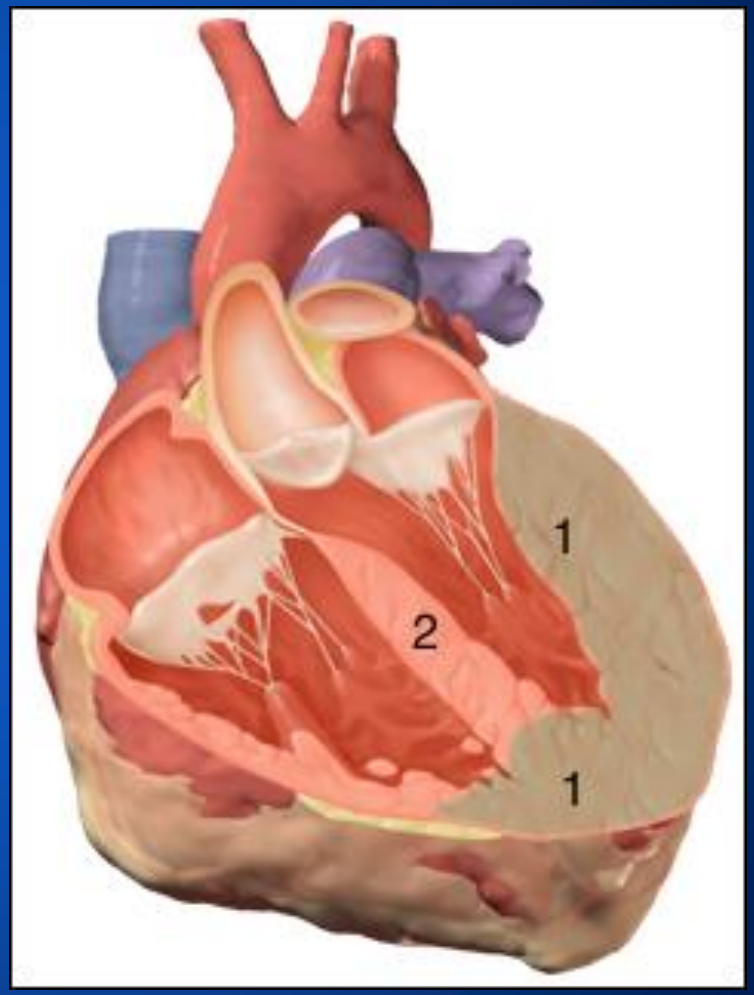




NZGG CVD Handbook
http://www.nzgg.org.nz/search?tag_id=95

Classification – New York Heart Association

- Functional Status Rating
- Class I - no limitations on physical activity
- Class II - mild limitation and/or Sx with activity
- Class III - Moderate/Marked limitation and/or Sx with activity
- Class IV - Severe limitation and/or Sx with activity or at rest



Symptoms

- A common and early symptom of CHF is fatigue.
- Other symptoms include
  - *difficulty breathing*
  - *swelling of the ankles and/or legs*
  - *discomfort or indigestion in the lower abdominal region due to pressure*
  - *awaking in the middle of the night breathless (PND)*
  - *orthopnea*
  - *sweating*
  - *wheezing*

Reversible CHF exacerbating factors

- Anaemia
- Infection (bronchopneumonia, urinary tract infection, endocarditis)
- Arrhythmias
  - tachyarrhythmia - atrial fibrillation, atrial flutter or ventricular tachycardia
  - bradyarrhythmia such as sinus bradycardia or heart block
- Drugs
  - salt-retaining drugs (corticosteroids, nonsteroidal anti-inflammatory drugs (NSAIDS)
  - negatively inotropic drugs (diltiazem)
  - liquorice

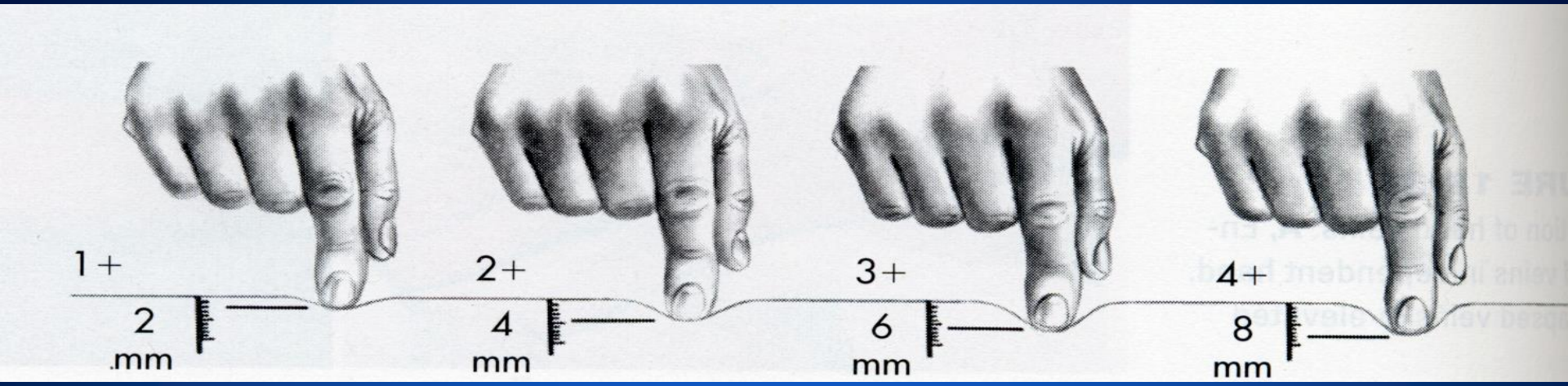
Cardiac Advanced Care Planning

- Palliative Care Approach Consideration

Palliative care should be considered for patients with the strong possibility of death within 12 months and who have advanced symptoms e.g. NYHA Class IV, and poor quality of life, resistant to optimal pharmacological and non-pharmacological therapies. Strong markers of impending mortality include.

- Advanced age
- Recurrent hospitlisation for decompensated heart failure and/or a related diagnosis
- NYHA Class IV symptoms
- Poor renal function
- Cardiac cachexia
- Low sodium concentration
- Refractory hypotension necessitating withdrawal of medical therapy

Pedal Edema



Abdomen

- Abdominal pain
- Nausea and/or vomiting
- Abdominal tenderness
- Constipation
- *Date of last BM*
- Decreased/absent bowel sounds
- Distended abdomen
- Decreased appetite/fluid intake
- Diarrhoea
- GI Bleeding *(blood in stool or vomitus)*
- Hyperactive bowel sounds
- Jaundice

Cachexia versus Starvation

- Starvation: pure protein/energy deficiency (under-nutrition)
- Cachexia: cytokine-induced wasting of protein and energy stores, *caused by effects of disease*
  - Malignancy, COPD, ESRD, CHF
  - Remarkably resistant to hyper-caloric feeding

Thomas, D. "Distinguishing Starvation from Cachexia." *Clinics in Geriatric Medicine*. 2002; 18: 883-891

Cachexia versus Starvation

	Starvation	Cachexia
Appetite	Late suppression	Early suppression
BMI	Not predictive of mortality	Predictive of mortality
Albumin	Low in late phase	Low in early phase
Cholesterol	May remain normal	Low
Total lymphocyte count	Low, responds to re-feeding	Low, no response to re-feeding
Cytokines	Little data	Elevated
Inflammation	Usually absent	Present
With re-feeding	Reversible	Resistant

Thomas, D. "Distinguishing Starvation from Cachexia." *Clinics in Geriatric Medicine*. 2002; 18: 883-891

Genito-urinary Issues

- Blood in urine
- Decreased urine output
- Lower abdominal pain or tenderness
- Need to urinate more urgently
- New or worsening incontinence
- Painful urination
- Urinating more frequently or urgency

Immediate Fall Assessment

- airway, breathing and circulation
- Do not move the person until a thorough examination has been performed
- rule out spine injury
- If stable:
  - Ask about pain
  - ask the patient/witness how they fell,
  - shortness of breath
  - Syncope before fall
  - palpitations or chest pain
- Monitoring level of consciousness
- measure vital signs, SPO2
- blood glucose (especially for diabetes)
- Monitor every 15 minutes as well as with any drastic change in status
  - loss of consciousness
  - new onset of confusion
  - agitation

Immediate Fall Assessment

- Slide your hands along entire body with a firm but gentle pressure using a systematic head-to-toe approach
- Feel for deformities and watch the patient's face for expressions of pain
- Inspect the patient's chest and abdomen for asymmetrical chest movement, rapid, shallow breathing, use of accessory muscles and/or tenderness of chest that may indicate a rib fracture or respiratory distress
- If chest pain is only elicited with pressure applied to the sternum, then a rib fracture instead of a cardiac cause is likely
- A firm, distended or tender abdomen may suggest internal bleeding, peritonitis or bowel obstruction
- Check the head, ears, eyes, nose and throat for lacerations, bruising or bleeding

Fracture Assessment

- Hip Fracture:
  - involved extremity to be shorter than the other extremity and externally rotated.
  - A dislocated hip is usually internally rotated and slightly flexed
- Distal radius and ulna Colles' fracture
  - "dinner fork" deformity
- Fracture of the proximal humerus
  - may also have dislocation of the involved shoulder
  - frequently a large bruise may spread into the pectoral region
- Assess for a pelvis injury by applying pressure to both iliac crests while moving the hips forward and backward.
  - pain or crepitus (a feeling of grating with movement) may mean a pelvic fracture

FALLS RISK FACTORS

E guideline 21

Falls Intervention

- Treat any acute illness that precipitated the fall
- Treat specific conditions affecting balance
  e.g Parkinson's disease, osteoarthrosis, stroke

- GP/NP treatment of postural hypotension or arrhythmia

- Rationalise medication especially psychotropic agents

- Correct visual impairment where possible

- Physiotherapy: balance and strength training

- Environmental hazard check, safety awareness

Hip protectors

Cochrane review 2006

- Meta-analysis of 11 trials in care home settings:
  Reduction in incidence of hip fracture (RR 0.77 (95% C.I. 0.62-0.97) (but weak cluster randomisation methodology in 7 trials)

- Meta-analysis of 3 individually randomised trials in community settings: No reduction (RR 1.16 (95% C.I. 0.85-1.59)

- Poor acceptance (median 68%) and compliance rates (median 56%)

- Conclusion: hip protectors are ineffective for those living at home and their effectiveness in an institutional setting is uncertain.

Parker et al. BMJ 2006

Falls prevention in dementia:

- Multifactorial intervention in patients with cognitive impairment
  - RCT of those with MMSE of <24 found no benefit from multifactorial assessment and intervention after a fall which led to presentation to A&E

    (Shaw et al, BMJ 2003:326:73)

- Hospital and Care homes meta-analysis:
  - Meta-regression showed no significant association between effect size and prevalence of dementia or cognitive impairment

Drugs and falls

- Falls often lead to fractures
- Elderly have less efficient homeostatic mechanisms
- Increased postural hypotension with:
  - Antihypertensives and alpha blockers
  - TCAs
  - Benzodiazepines
  - Nitrates
  - Diuretics

In Conclusion:

Whenever I feel blue,

I start breathing again.

L. Frank Baum (Author of Wizard of Oz)