

### Week 2 Lecture: Australian health care system

Health care in Australia is provided by private & govt institutions.

Challenges in the funding & delivery of health care: demographics (rural), disease pattern, increased cost (of medical devices), decreased workforce.

Primary focus of the Australia Health care system: equal access to quality health care, reduce waiting lists, increase num of spaces available for patients who need time & support before going home, focus on preventative health care (to keep Australian's healthy & out of hospital e.g. obesity), improve kid's health, improve indigenous wellbeing

Federal initiatives include: Medicare, the Pharmaceutical benefits scheme, the national immunisation program, the aus' organ donor register, the therapeutic goods association & the Aus institute of health & welfare.

Lifelong learning is actively reflecting on where you are & where you need to be. It involves an inquiring mind-how are my skills & knowledge developing.

Competence is being reliable & delivering a consistent outcome, technical proficiency. It's the ability to practice to benchmarked and developmental standards. Portfolio is evidence.

### Week 3 lecture: communication

Collaboration involves a clear aim (goals), a clear process (respecting others' contribution) and open channels (accessible ways to communicate-phone, email, patient notes, radiology reporting software etc.).

Therapeutic relationships are geared towards the patient's needs & have clear moral & ethical boundaries.

Establishing rapport & building trust: both at eye level-eye contact, personal space, touch. We establish rapport socially by showing interest e.g. sport, weather or TV-common ground. We build trust by being honest & realistic, following up on what we say we'll do, presenting ourselves professionally. Active listening involves demonstrating you're hearing the patient through eye contact, posture & non-verbal cues e.g. nodding, smiling, repeating back. Paraphrasing reassures patient we've listened & understood.

### Week 4 lecture: Communicating in clinical practice

Communicating styles e.g. assertiveness or aggression direct & indirect.

- Indirect communication- circular communication where an answer to a question is reached after initial unrelated communication e.g. patient backtracks & provides context. People feel more comfortable in expressing private info later in a convo.
- Social norms: yelling/aggression is addressed & not accepted. Boundaries upheld, no irrelevant discussion of personal info.

Special groups incl: toddlers & children, cognitively impaired people, people with cultural and linguistic diversity (CALD) and people with hearing or speaking impairment.

- i. Children: children look to their parent to see if you're trustable. Use plain language, start with non-clinical topics (rapport), and engage with the family as a group.
- ii. Cognitive impairment: e.g. dementia- allow for processing time, allow circular communication, check for understanding.

- iii. CALD- respect norms around cultural safety, gender safety (male nurse with female patient), avoid taboo topics, appropriateness for touch, eye contact, health beliefs. language differences may lead to patient avoiding asking for help, they may nod & agree regardless of comprehension.

### Week 5 lecture: Health assessment practices & vital signs-collecting data

A health assessment is obtaining a health history (through interview) as well as physical examination (IPPA). It's an organised approach to collection of patient info Types of health history:

- Complete:
- Episodic or focused: particular problem
- follow up: seeing patient after surgery
- Emergency: lifesaving info is gathered e.g. allergies.

Sources of data: the patient, medical files, a carer/bystander, physical examination and observations e.g. vital signs, lab test results.

Assessment: Clinical decision making & patient care is informed by a 4 step process: APIE

- 1) Assessment
- 2) Planning
- 3) Intervention
- 4) Evaluation

Assessment acronym: SAMPLE

- 1) Symptoms-PQRST
  - o Provoking
  - o Quality
  - o Radiating
  - o Severity (1-10)
  - o Timing
- 2) Allergies
- 3) Medications
- 4) Past history
- 5) Last
- 6) Event

Gordon's 11 functional health patterns	ABCDE-primary emergency assessment	Head to toe assessment-secondary	Body systems approach-secondary survey
Holistic approach. Recognises multiple influences on health.	A-airway B-breathing C-circulation D-disability E-exposure	Compare left & right side. Least to most invasive procedures to build trust.	Specific assessment e.g. cardiovascular, respiratory, musculoskeletal etc.

Family assessment: family structure, family structure, roles & functions, physical health, interaction patterns, coping mechanisms.

Observation & vital signs:

- Observations: general overall impression of person, congruence, anxiety/embarrassment, pain, comprehension, communication techniques
- Vital signs-objective vital body systems-TPR, BP. Techniques

A. **Respiration**- rate (breaths p/min), rhythm (regular/irregular) and depth (normal, deep, shallow).

Terminology when describing respirations

- Dyspnoea-difficulty
- Bradypnoea-slow breathing below 12 BPm
- Tachypnoea-fast breathing above 20 BPM
- Apnoea- absence of breathing
- Orthopnoea-difficulty in breathing-relates to position (e.g. lying down)
- Hypoxia- low amount of oxygen in tissues
- Hypoxaemia- low amount of oxygen in the blood

Visual cues: colour e.g. blue (demonstrates whether tissues are well perfused) blue colour in nail beds is a clinical sign of hypoxaemia.

Factors affecting respiration:

Increased-pain, smoking, exercise, stress, febrile, anaemia

Decreased- sleep, hypothermic, medications, brain injury, decreases w/ age

B. **Heart rate (Pulse measurement)**- a pulse is a palpable wave of contraction in an arterial wall. Cardiac output=stroke volume x heart rate. Palpation is used to assess pulse. Auscultation is used with stethoscope. Carotid, apical, brachial, radial, femoral, popliteal, posterior tibial, dorsalis pedis.

- Tachycardia- rapid pulse
- Bradycardia- slow pulse
- Arrhythmia-absence of a rhythm

C. **Temperature**-Hypothalamus and the integumentary system regulate body temp.

- Afebrile/apyrexia-temp within normal range (absence of a fever)
- Hypothermia-low temp (cold temp)
- Hyperthermia- elevated temp above 40 degrees
- Febrile/pyrexia- (elevated temp), fever

Routes for taking temp: oral (under tongue), tympanic (eardrum), axillary (under arm), rectal temp (bum)

Body adaptations to raised temp: sweating, flushed appearance (vasodilation) and dry mucous membranes.

Body adaptations to lowered temp: increased basal metabolic rate, vasoconstriction, shivering, Goosebumps.

## Week 6 lecture: Oxygen Saturation and blood pressure

**Oxygen saturation**- oxygen is transported in blood either dissolved or bound to haemoglobin. Pulse oximeter is a non-invasive technique which estimates the peripheral arterial blood oxygen saturation (at the peripheries-finger, earlobe or toe) (SpO<sub>2</sub>). Tests oxygen level in the blood.

Factors affecting SpO<sub>2</sub>: respiratory disease, cardiac disease, exercise, O<sub>2</sub> therapy, smokers...

Factors affecting accuracy: haemoglobin level, circulation, activity, dark-coloured nail polish

**Arterial Blood pressure** is the pressure of the blood against the arterial walls. Pressure is created by the resistance and amount of blood in arteries.

Effect of vasoconstriction: narrower the blood vessels, the higher the BP (more pressure needed to push blood through)

- Systolic: contraction of the ventricles
- Diastolic: ventricles at rest
- Pulse pressure: difference between systolic & diastolic pressures

Korotkoff's sounds- 5 different sounds. 1<sup>st</sup> korotkoff sounds indicates systolic pressure, 5<sup>th</sup> sound indicates diastolic pressure.

Factors affecting BP: age, pain, stress, ethnicity, exercise, cuff size, gender...

Equipment: mercury instrument (needle)

### **Professional communication and documentation**

Gathering data-types, sources, methods (interview, survey examination) and communication (patient/relatives and interprofessional team members).

Verbal communication handover: ISBAR-report only changes

- Introduction
- Situation
- Background
- Assessment
- Recommendation

Types of documents: patient charts, medical records, lab results, procedure reports, incident forms

### **Week 7 lecture: Safety in Healthcare**

- Medical errors result from ineffective working relationships, inadequate team work, inadequate sharing of clinical documentation. Inadequate respect for the contribution of others.
- Safety is the avoidance or reduction to acceptable limits of actual/potential harm from health care management or the environment in which health care is delivered.
- Safety measures: assessment of risk, intervention to address risk and evaluating guidelines & policies-to improve.
- Factors increasing the risk of human error: experience, interruptions, stress, fatigue, environmental factors
- Patient factors affecting safety: age, development, lifestyle, mobility & health status, cognitive awareness, emotional state, safety awareness, unfamiliar environment.
- Systems factors affecting safety: inadequate protocols/policies, healthcare-acquired infections, ineffective communication processes, manual handling, medication safety, documentation and environmental factors.

**Risk assessment:**

Professional practices that promote safe practice by HCPs: compliance with clinical risk management-incident reporting, comprehensive patient assessments use of risk assessment tools, general survey and sense assessments.

Health care professionals consider 3 components for patient safety:

- 1) Threat to patient's safety in their immediate environment: intrinsic & extrinsic
- 2) Impact an illness/disability/medication may have on their safety: level of consciousness, loss of mobility, loss of awareness of surroundings, change to vision, hearing or sensation, nausea, vomiting, dizziness, loss of balance and confusion.  
Medications risk: poor labelling, incorrect prescription/administration, lack of awareness of adverse effects and poor control/storage.
- 3) Presence of risks related to patient's psychological & emotional development

**Risk Assessments for HCP**

- Clinical environment, roles & responsibilities, compliance with standards of practice for nursing discipline, safety & culture of work place setting, safe work practices (e.g. manual handling, infection control)
- Occupational risks: injury, infection, violence: physical & verbal abuse, environmental exposure and stress.

Environmental hazards: muscular-skeletal injuries, assault/violence, exposure to chemicals, exposure to micro-organisms, psychological harm, slip, trips and falls.

**Situational awareness** is the recognition of elements within our immediate environment, understanding their meaning relative to the situational context, & the ability to then predict how these elements may change in the future.

Factors affecting situational awareness: culture/climate in workplace, resources provided to care, automation and demographics (cultural component of workplace)

**Week 8 Lecture: Medication safety**

In NSW, the Poisons and Therapeutic Goods Regulation (2008) governs the use of drugs. The Therapeutic Goods Administration (TGA) is responsible for the quality, safety, efficacy and timely availability of drugs and medical devices in Australia. The TGA regulates non-prescription drugs, medical devices, and vitamin, nutritional and herbal products.

- Pharmacokinetics: how drugs enter the body & reach their site of action, are metabolised and excreted (what the body does to the drug)
- Pharmacodynamics: what the drug does to the body.

S8 drugs must be locked up

Medications can be administered through different routes:

- Topical (skin, eyes, ears)-application of liquids/ointments, insertions, inhalations.  
They affect only the area to which they're applied.

- Oral (sublingual, buccal, enteral)-convenient, not expensive, safe-doesn't break skin barrier). (-) inappropriate for patient's w/ nausea, bad taste or odour, inappropriate if client has GIT issues. sublingual- placed under tongue until dissolved
- Rectal/vaginal: drug released at slow/steady rate.
- Intravenous
- Parenteral- by injection. Common routes- subcutaneous or intramuscular.

#### Effect of drugs

- Therapeutic effect: desired effect intended
- Side effect: secondary effect, usually predictable
- Adverse effect: severe side effects, may lead to discontinuation of a drug.

Factors affecting medication action: developmental factors, gender, culture, diet...

#### Types of medication orders

Stat order	Medication to be given immediately & only once
Single order	Medication to be given once at a specified time
Standing order	May be carried out indefinitely until an order is written to cancel it
PRN order	Permits the medication to be given when it's required by patient

#### The 6 rights of medication administration: pre medication check

- 1) Right person: patient's ID bracelet
- 2) Right drug: check medication 3 times, understand effects
- 3) Right dose: measure at eye level
- 4) Right route: check order, manufacturer's instructions
- 5) Right time: prescribed schedule-whether it's stat or PRN
- 6) Documentation: nurse witnesses patient take medication & signs

National In Patient Medication Chart (NIMC) standardised approach.

#### Week 9 Tutorial: Medication calculations

- The dose may be dependent on body weight
- The unit of the medication ordered is different to the unit of the drug supplied e.g. order in mg, drug in grams.
- Rounding is always done to one place! E.g. 3.7mL
- If converting a larger unit e.g. grams to mg, the decimal point moves right, **multiply by 1000 (3 points to the right)**  
e.g. 2 grams=2000.0 grams.
- If converting a smaller unit e.g. mg to grams, the decimal point moves left. Divide by 1000. (3 points to the left)
- There are 1000 mg in a gram
- There are 1000 micro grams in a gram

e.g. covert 0.2 grams into mgs =200mg

e.g. convert 4000mg into grams =4.0 grams

Formula for mixtures and tablets

$$\frac{\text{SR (stock required)}}{\text{SS (stock in store)}} \times \frac{\text{Stock volume (per mL)}}{1}$$

What constitutes a legal and valid order?

- (1) In date-10 days after the date prescribed
- (2) Legible (readable)
- (3) Signed by the doctor

### Week 10 lecture: Manual handling

The use of force to move an object; either through pushing, pulling, lifting, carrying or restraint. Manual handling injuries contribute to: lost productivity; additional burden on the healthcare budget; injury to consumers; and loss of valued workers from the system. Manual handling injuries result in: direct physical injury; economic loss; chronic physical limitations; adverse psychological and emotional effects; economic loss; career interruptions; and loss of work capacity.

Assistive devices: trolley, walk belts, slide sheet, hovermatt lateral transfer, pat-slide, hoist, moveable beds, stretchers, pelican belt is commonly used to lift people-assistive devices

Falls risk assessment

The Falls Prevention Approach: assessment of risk, identification of contributing factors, implementation of falls risk reduction strategies and monitoring effectiveness of interventions.

Risk assessment tools: history, physical assessment and falls assessment, pressure area assessment, home/environment assessments and mental health assessments.

Generally these are assessed: medications, illnesses, mental state, history of falls, balance, bladder problems, sensory problems and footwear

-Intrinsic vs extrinsic: make individual susceptible to falling:

- intrinsic-mental state, confusion, imbalanced, fever, deformities/disability/mobility issue, age, visually impaired
- extrinsic- (clothing), tubes, shoes, poor lighting, previous medical history, medications taken

### Week 11 tutorial: Activities of Daily Living

Activities of daily living is the patient's capacity to undertake basic self-care. Nurses support any deficits but patients should do as much as possible. Reducing risk through ADLs and hygiene care as effects of trouble doing ADLs include:

-Skin flora accumulates, skin dries & flakes, leading to cracks: breach in defence

- Incontinence: moisture macerates skin leading to breakdown. Urine is acidic.
- Oral Micro-organisms multiply & colonise

Functions of the skin:

- Protection (protects underlying tissue from injury-no micro-organisms)
- Regulation (body temp. through excretion and evaporation of (sweat)
- Secretes sebum (oily substance that softens & lubricates the hair/skin)
- Sensation-transmits sensations through nerve receptors
- Produces and absorbs vitamin D.

To minimise development of pressure injuries through supportive considered care including repositioning patients at regular intervals, as damage can occur in as little as 1-2 hours.

What activities of daily living/hygiene care are more important for the maintenance of skin integrity?

- Regular showers-provides full body skin assessment
- Drying off appropriately
- Exercise
- Hand hygiene
- Balanced diet
- Hydration
- Vitamin D
- Skin assessments

ADL's are important and promoting independence is important as it keeps people out of hospital.