

## NURS1201 Summary Notes

### Glossary

accountability	the fact or condition of being accountable; responsibility.
adverse drug event	an undesired and unexpected bad effect of administering a drug.
afebrile	free from fever or not marked by fever.
analgesia	any member of the group of drugs used to relieve pain
anaphylaxis	an acute allergic reaction to an antigen (e.g. a bee sting) to which the body has become hypersensitive.
allergy	a damaging immune response by the body to a substance, especially a particular food, pollen, fur, or dust, to which it has become hypersensitive.
anti-depressant	Medications prescribed to relieve major depression. Classes of antidepressants include selective serotonin reuptake inhibitors (fluoxetine/Prozac, sertraline/Zoloft), tricyclics (amitriptyline, nortriptyline), MAOIs (phenelzine/Nardil), and heterocyclic antidepressants (bupropion/Wellbutrin, trazodone/Desyrel)
anti-inflammatory	refers to the property of a substance or treatment that reduces inflammation.
antibiotic	Antibiotics may be informally defined as the subgroup of anti-infectives that are derived from bacterial sources and are used to treat bacterial infections.
antihypertensive	Medications used to treat high blood pressure.
antipyretic	A drug that lowers fever, like aspirin or acetaminophen.
apnoea	absence of breathing
arrhythmia	an abnormality in rhythm or rate of heart beat in time of force
arthritis	inflammation of a joint.
Bradycardia	Slowness of the heart beat, as evidenced by slowing of the pulse rate to less than 60bpm.
Bowel sounds	Abdominal sounds caused by the products of digestion as they move through the lower gastrointestinal tract, usually heard on auscultation.
cardiac output	Volume of blood pumped from the right or left ventricle in one minute. It is equal to the stroke volume multiplied by the heart rate.
cheyne stokes	Is an abnormal pattern of breathing characterized by progressively deeper and sometimes faster breathing, followed by a gradual decrease that results in a temporary stop in breathing called an apnoea.
complementary medicine	any of a range of medical therapies that fall beyond the scope of conventional medicine but may be used alongside it in the treatment of disease and ill health. Examples include acupuncture and osteopathy.
cyanosis	a bluish discoloration of the skin due to poor circulation or inadequate oxygenation of the blood.
epidemiology	the study of causes, distributions and control of disease in populations.
diastolic	the minimum arterial pressure during relaxation and dilatation of the ventricles of the heart when the ventricles fill with blood
digestive tract	pathway by which food enters the body and solid wastes are expelled
dyspnoea	difficult or laboured breathing.
febrile	having or showing the symptoms of a fever
fluid balance	is the concept of human homeostasis that the amount of fluid lost from

## Topic 1: Health Assessments

### **Clinical Reasoning Cycle:**

Consider the patient situation:

Describe or list facts, context, objects or people.

#### 2. Collect cues/information:

Review current information (e.g. handover reports, patient history, patient charts, results of investigations and nursing/medical assessments previously undertaken)  
Gather new information (e.g. undertake patient assessment)  
Recall knowledge (e.g. physiology, pathophysiology, pharmacology, epidemiology, therapeutics, culture, context of care, ethics, law etc.)

### **Epidemiology**

- Epidemiology: the study of causes, distribution and control of diseases in populations.
- Evidence based practice and Health policy is derived from epidemiological studies.
- Morbidity: the incidence of a particular disease or disorder in a population.
  - Incidence: total number of new cases in a population over a given period of time (how many people are getting it).
  - Prevalence: total number of cases in a population in a given period of time (how many people have it)
- Mortality: death rate, ratio of deaths to total population in a specified community or over a specified time.
- Risk factors: are characteristics that increase the probability of a particular disease occurring compared to those who don't have the risk factors.
- Epidemiological studies have helped the government identify the National Health priorities (NHP). These are:
  1. Arthritis and musculoskeletal conditions
  2. Asthma
  3. Cancer
  4. Cardiovascular disease (CVD)
  5. Diabetes mellitus
  6. Injury (e.g. car crash, falls, sports injuries etc.)
  7. Mental Health
  8. Obesity

### **Observations**

#### **- Vital Signs:**

- TPRBP & P, follow this order when measuring.
- Record on SAGO chart and ensure measurements are 'between the flags' or otherwise enact advance care (urgent clinical review- yellow zone or rapid response- red zone ).

- SAGO allows health professional to track and recognise a deteriorating patient and to know when to advance care to ensure patients are getting the medical care they need.

### Temperature:

Normal	Factors that cause abnormal results	Measuring Temp.
36-38°C	<ul style="list-style-type: none"> <li>• Hormones</li> <li>• Fever</li> <li>• Infection</li> <li>• Dehydration</li> <li>• Pregnancy</li> <li>• Inflammation</li> <li>• exercise</li> </ul>	<ul style="list-style-type: none"> <li>• Temp can be measured until tongue, in ear, under arm and rectally.</li> <li>• In measuring orally, ensure patient hasn't had hot or cold drink recently.</li> </ul>

- Body temperature reflects balance between heat lost and heat produced
- It should remain relatively constant due to homeostasis
- Skin and surface temperature varies with the environment
- Heat is produced by basal metabolic rate, muscle activity, thyroid output, adrenaline/noradrenaline and fever.

### Pulse (HR):

Normal	Factors that cause abnormal results	Measuring Pulse
<b>Adult:</b> 60-100 bpm (beats per minute) <b>Child:</b> 70-110 bpm	<ul style="list-style-type: none"> <li>• Pyrexia</li> <li>• some medications</li> <li>• Hypovolaemia</li> <li>• heart conditions</li> <li>• pregnancy</li> <li>• hypotension (compensate)</li> <li>• elite athletes (lower HR)</li> </ul>	<ul style="list-style-type: none"> <li>• Pulse can be palpated at different places: radial, brachial, carotid, temporal, femoral, Pedal at Dorsal's pedis artery (in foot)</li> <li>• Measure rate, rhythm and strength of pulse.</li> <li>• Apex beat is measured at fifth intercostal space at the far outward and downward position of ribs.</li> </ul>

- The pulse is a wave of blood created by the contraction of the left ventricle of the heart.
- Pulse = stroke volume x heart rate
- Cardiac output is the volume of blood pumped around the heart in one minute.
  - Cardiac output = SV x HR in 1 min.

### Respiration:

Normal	Factors that cause abnormal results	Measuring Respirations.
<b>Adult:</b> 12-20 Breaths/min <b>Child:</b> 18-30 Breaths/min	<ul style="list-style-type: none"> <li>• smoking</li> <li>• lung disease such as emphysema</li> <li>• some medications</li> <li>• obstruction of airways</li> <li>• pain</li> </ul>	<ul style="list-style-type: none"> <li>• Ensure the patient doesn't know you are measuring this otherwise they will modify their breathing.</li> <li>• Look for abnormal rate, depth, rhythm or sounds from breathing.</li> </ul>

- Respiration is the act of breathing; inhalation, inspiration and expiration, exhalation.
- The medulla and pons of the brain controlled respirations by monitoring  $[O_2]$ ,  $[CO_2]$  and  $[H^+]$  in blood and altering resps. to maintain stable internal environment.
- Inhalation:
  - Diaphragm contracts, ribs move upward + outward, permitting lungs to expand.

- Exhalation:
  - Diaphragm relaxes, ribs move downward and inward, lung compress and recoil.
- **Eupnoea**: normal breathing/respirations.
- **Tachypnoea**: >24bpm due to chest infections, COPD (chronic obstructive pulmonary disease), fever, stress, exercise.

## Topic 2: Medication Safety

### Schedule of drugs

- S1- not used
- S2- over the counter pharmacy (can be purchased in supermarkets in low quantities).
- S3- pharmacist only drug (verified and checked by a pharmacist)
- S4- prescription only drugs,
- S4D- prescribed restricted substances, significant risk of addiction/abuse
- S5-S7- not designed for human consumption (5=low hazard, 6=moderate hazard, 7=highly hazardous).
- S8- drugs of addiction, must be prescribed by an authorised practitioner and administered with two RNs or an RN and an authorised EN.
- S9- prohibited substances (e.g. heroin, cannabis, LSD etc.)

### Storage of drugs

- All drugs must be kept in a locked room or in a patient locked bedside table drawer.
- S4D & S8 drugs must be kept:
  - In locked room or secure cupboard or safe with nothing else in safe/cupboard.
  - Sometimes under surveillance
  - The NUM or RN in charge must hold keys.
  - Must be written up in ward register when administering
  - Only a Pharmacist can destroy these in the presence of a RN.

### Medication Administration:

Do's	Don'ts
<ul style="list-style-type: none"> <li>☑ Check drug packaging and expiry date</li> <li>☑ Check MIMS for information if unsure about drugs (WARNINGS)</li> <li>☑ Question what is normal dose/reasoning)</li> <li>☑ Check patient identification (full name, DOB, admission no. same as on medication chart)</li> <li>☑ Check medication chart is valid, signed by prescriber and legible</li> <li>☑ Check patient allergies/ past reactions</li> <li>☑ Check patient is able to take drug right now</li> <li>☑ Check last medication given</li> <li>☑ Check if any changes been made to order</li> <li>☑ Ask patient for consent</li> </ul>	<ul style="list-style-type: none"> <li>☒ Don't use unlabelled syringes or containers</li> <li>Don't give medication if:               <ul style="list-style-type: none"> <li>☒ You don't know what it is</li> <li>☒ If dose seems unusual or extreme (too high)</li> <li>☒ You haven't identified patient or identification is wrong.</li> <li>☒ Medication if chart isn't valid, legible or fully completed by prescriber</li> <li>☒ Patient allergies conflict with order</li> <li>☒ Patient is vomiting or unconscious.</li> <li>☒ Medication has already been given recently</li> <li>☒ Order has been changed, follow new order</li> <li>☒ Patient doesn't want drug.</li> </ul> </li> </ul>

- Inform the patient about potential side-effects, indication, action (PATIENT EDUCATION).
- 6 rights of medication administration:
  - Right patient
  - Right drug
  - Right dose

- Right time
- Right route
- Right documentation

## **Topic 3: Pre-op/Post-op care**

### **Nursing Assessments**

#### **Pre-op:**

- **Observations** (baseline vitals)
- **Medical history** (comorbidities, chronic disease, acute conditions, previous surgery, effect of analgesia/anaesthetic?)
- **Pain assessment** (PQRST baseline- type of meds needed? Pain score)
- **Physical assessment** (mobility, level of assistance required with ADLs)
- **Medication history** (what medication, when last taken, how much, alcohol other drugs? withdrawal? Supplements/CAMS? Allergies?)
- **Nutrition and fluid assessment** (when last eaten/drank fluids, what how much? Fluids needed during surgery, IVC? How is diet- wound healing protein? Vitamin? Minerals?)
- **Hygiene** (skin assessment, pressure care, wound healing care)
- **Finance** (health fund, private or public?)
- **Social support** (family? Carers? Transport?)
- **Discharge plan** (wound care, mobility, nutrition, what to look for)
- **Education before consent** (procedure, risks, benefits, effects of drugs, post-op care, discharge, alternative care, exercise- breathing, limb)
- **Doctor assessment** (pre-op tests? Diagnosis? Need for operation? Medication required? Analgesia or anaesthetic?)
- **Cognitive assessment** (LoC, alert, oriented? Memory?)
- **Mental health** (anxious, stressed? Other concerns? Carer or pets/people? Responsibilities, work/study commitments, parents/family/friends contacted?)

#### **Post-op:**

- **Observations** (different from baseline? Why? Interventions required? Did they change during surgery?)
- **Neuro obs** (LoC, alert, oriented? Strength)
- **Surgery report** (successful? What was done/found? Any complications/changes?)
- **Medication** (anaesthetic/analgesic used? Pain meds? When last received?)
- **Pain assessment** (PQRST, score, meds needed?)
- **Fluids balance** (fluids received during surgery, elimination? When last voided, how much?)
- **Nutrition** (bowel sounds? Bowels opened? Nausea?)
- **Wound** (dressing, site care needed? r/v, follow-up appointment?)
- **Mobility** (when to mobilise, equipment/assistance required, techniques to avoid pain, rehab?)
- **Discharge plan** (nutrition, meds, wound care, pain)

### **Medication Management for the medical and surgical patient:**

#### **Pre-op:**

- Aspirin and anti-inflammatory medication needs to be ceased 10 days prior to surgery because it stops the effects of platelets and thus increases the risk of bleeding. 10 days gives body

enough time to remove drugs from blood and allow platelets to return to normal levels (replaces at 10% per day).

- Complementary and alternative medicines needs to be ceased 10 days prior to surgery as some herbal preparations increase bleeding risk (e.g. Chondroitin), some can interact with other medications (e.g. St John's Wort).

## Topic 7: Elimination

### Urinary Elimination:

#### Hydration:

- Fluids make up 50-70% of total body weight
- 2/3 water is intracellular, 1/3 extracellular
- Fluids are ingested via fluid and food and lost via fasting, sweating, urine, faeces, respiratory loss, vomitus, diarrhoea.
- It is important to maintain the correct water-salt/fluid balance for many important functions.
- Too much or too little fluid can lead to other problems:
  - TOO LITTLE: Hypovolaemia (dec. circulating blood volume)
    - Altered mental status (irritation, confusion, restless, decrease LoC)
    - Sweating, cold, pale skin
    - Slow capillary refill
    - Hypotension and tachycardia to compensate
  - TOO MUCH: Hypervolaemia/fluid overload (inc. circulating blood volume)
    - heart must work hard to pump it all around body)
    - Can hear crackles & wheezes in lungs (fluid in lungs- causes SOB)
    - Peripheral oedema
    - Oedema in brain

Cues	Hydration	Over-hydration	Dehydration
BP	130-110/70-70	Hypertension	Hypotension
Pulse	60-110bpm	Bounding, strong, HR (inc. HR if severe)	Weak, thready pulse (inc. HR is severe dehydration)
Temp	36-38°C	Decreased temp, shivering in normal temps, clammy, oedema	Increased temp, febrile if severe
Respirations	12-20/min	Inc. resps, dyspnoea, crackling in lung	Increased respirations or normal
Mental State	Alert, aware, conscious, oriented	Fatigue, delirium, drowsy, nausea, lethargy, headache	Confused, agitated, disoriented, dizzy, light-headed, dec. LoC if severe
Urine colour	Pale yellow	Completely clear	Amber colour to dark yellow
Urine specific gravity	1.000-1.030	<1.000	>1.030
Activity level	Normal	Reduced activity level	Reduced activity level (tired/drowsy)
Skin turgor	Skin should spring back immediately	Skin is swollen, oedematous	Skin slowly returns to original position
Mucous membranes	Moist	Very moist	Dry, dull in appearance, sticky mouth, tongue, cracked.

## Urine:

- Components of urine:
  - 95% water
  - 5% solutes- organic elements (urea, creatinine, uric acid) and ions ( $\text{Na}^+$ ,  $\text{Cl}^-$ ,  $\text{K}^+$ ,  $\text{Mg}^{2+}$ ,  $\text{Ca}^{2+}$ ,  $\text{NH}_4^+$ ,  $\text{PO}_4^{3-}$ )
- Normal urine:
  - Colour: pale yellow to dark yellow
  - Absence of RBCs, WBCs, protein, ketones, nitrites, glucose, bilirubin
  - pH: 4.5-8
  - odour: faint aromatic
  - amount in 24hrs: 1200-5000mL
- Observations in routine UA

Visual Examination	Chemical Examination	Microscopic Examination
<ul style="list-style-type: none"><li>▪ Colour</li><li>▪ Appearance</li><li>▪ Volume</li><li>▪ Odour</li><li>▪ Amount</li></ul>	<ul style="list-style-type: none"><li>▪ pH</li><li>▪ glucose</li><li>▪ bilirubin</li><li>▪ nitrates</li><li>▪ specific gravity (concentration)</li></ul>	<ul style="list-style-type: none"><li>▪ blood</li><li>▪ albumin</li><li>▪ protein</li><li>▪ ketones</li><li>▪ leukocytes</li><li>▪ creatinine</li><li>▪ urobilinogen</li></ul>
		<ul style="list-style-type: none"><li>▪ RBCs/WBCs</li><li>▪ Crystals</li><li>▪ Bacteria, yeast</li><li>▪ Casts</li><li>▪ Epithelial cells</li><li>▪ Other organisms</li></ul>

## Bowel Elimination:

### Faeces:

- Defecation is the expulsion of faeces from the anus and rectum. Also called bowel movement.
- Peristalsis helps food move through the GI tract and turn into faeces in the large intestine.
- Flatus is largely air and the by-product of the digestion of carbohydrates.
- Normal faeces is about 75% water and 25% solids materials such as undigested foods, inorganic salts, bacteria and epithelial cells shed from the GI lining.








Characteristics	Normal	Abnormal
Colour	Brown	<ul style="list-style-type: none"><li>▪ Grey, clay or white- absence of bile pigment</li><li>▪ Black or tarry- certain medications, malaena (bleeding from upper GI tract), high red meat diet or dark green vegetable, liquorice</li><li>▪ Red- bleeding from lower GI tract, some foods (e.g. beetroot)</li><li>▪ Pale tan- malabsorption of fats, diet high in milk &amp; milk products/low in meat</li><li>▪ Green- intestinal infection, ingestion of spinach or senna laxatives, rapid transit times.</li></ul>
Consistency	Soft formed	<ul style="list-style-type: none"><li>▪ Constipation: hard, dry, pebbles- (dehydration, lack of fibre, fluids or exercise, motility disorders, endocrine disorders, psychiatric disorders, local pathology (tumours, strictures, anal fissure), drug induced (e.g. opiates, antihistamines)</li><li>▪ Diarrhoea- gastrointestinal infections, food or drug intolerance, short bowel syndrome, inflammatory bowel disorders, radiation enteritis</li><li>▪ Encopresis (faecal incontinence)- uncontrolled diarrhoea, neurogenic disorders (e.g. paraplegia), cognitive deficits (e.g. dementia)</li></ul>
Shape	Tubular	Narrow, pencil-shaped or string-like stool- obstructive tumours or strictures
Amount	100-200g/per day, however patterns vary	Increased or reduced stool volume- alternation in normal dietary intake, increased or decreased fibre intake, food intolerance, fasting, constipation, diarrhoea.
Odour	Differs subject to diet but tolerable	Pungent- infection, bleeding, certain foods such as onions, eggs

Constituents	Normal faecal contents	Pus- bacterial infection Mucus- inflammatory condition Blood parasites- gastrointestinal bleeding, worms Fat, floating stool- fat malabsorption Foreign objects- accidental ingestion
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- Factors that affect defecation:
  - Development (age)
  - Diet (dietary fibre, fluid)
  - Physical activity
  - Psychological factors (stress inc. peristalsis)
  - Defecation habits
  - Medication
  - Diagnostic procedures
  - Anaesthesia & surgery
  - Pathological conditions
  - Pain (dec. defecation)
  - Pregnancy

- Bristol stool chart helps nurses identify and describe patient's stools to record in bowel chart.

## Bristol Stool Chart

Type 1		Separate hard lumps, like nuts (hard to pass)
Type 2		Sausage-shaped but lumpy
Type 3		Like a sausage but with cracks on its surface
Type 4		Like a sausage or snake, smooth and soft
Type 5		Soft blobs with clear-cut edges (passed easily)
Type 6		Fluffy pieces with ragged edges, a mushy stool
Type 7		Watery, no solid pieces. <b>Entirely Liquid</b>

SAMPLE



## Useful abbreviations

Abbreviation Audio	Description
<	less than
>	greater than
@	at
%	per cent
abdo	abdomen/abdominal
ac	before meals
ADLs	activities of daily living
am	after midnight / before midday
AV	atrioventricular
bd/BD	twice a day
BGL	blood glucose level
BGLs	blood glucose levels
BNO	bowels not opened
BO	bowels opened
BP	blood pressure
BSL	blood sugar levels
C	Celsius
CAD	coronary artery disease
CCF	congestive cardiac failure
CCU	coronary care unit
cm	centimetre
CNS	central nervous system
consult	consultation
COPD	chronic obstructive pulmonary disease
CPR	cardio-pulmonary resuscitation
CSF	cerebro-spinal fluid
CT scan	computerised axial tomography scan
CVA	cerebro-vascular accident
CXR	chest X-ray
dc	discharge/discontinue
DM	diabetes mellitus
DOB	date of birth
dpm	drops per minute
Dr	doctor / medical officer
DVT	deep vein thrombosis
Dx (diag)	diagnosis
ECG	electro cardiograph
ED	emergency department
EEG	electroencephalogram

**SAMPLE**