Type: Essay
Subject: Reflection essay
Subject area: Nursing
Education Level: Phd Program
Length: 7 pages
Referencing style: APA
Preferred English: US English
Spacing Option: Double

Title: Reflective essay
Instructions: reflection essay 2000 words apa 6 reference style at least 10 references you will complete a self-reflective evaluation of their performance as a team member, reflecting on one technical and one non-technical skill. please identify areas of strength and areas requiring future development and outline a learning plan, including appropriate resources, to address your future learning needs. please find attached the lab simulation scenario we used for an idea of what we did and the type of patients we are looking after at the simulation lab. we had a 4 hour lab simulation class with different patients and scenarios, we also need to wear full covid ppe during the simulation. those are the skills (technical and non – technical skills that i think would be good to reflect on it) technical skills to reflect on: iv medication more specific heparin continue infusion. non – technical skills to reflect on: time management skills when attending more than 1 patient. in your discussion of technical and non-technical skills, you are to draw on current evidence to critically evaluate whether their clinical performance was commensurate to current best practices. where possible, please highlight how you could improve your practice. the reflection is to be structured using gibbs (1986) reflective framework. structure of reflection using gibbs (1988) framework overall, since you are reflecting on 2 skills you can either do 2 gibbs cycles one for each skill or you can combine them and have the 2 skills described in each section. both are correct, just keep in mind that the first way will take up more words. please use headings and subheadings throughout. introduction / description what happened? what aspect of the simulation are you reflecting upon? can combine the intro and description if you want. feelings what were you thinking and feeling? evaluation what was positive and challenging about the experience. analysis what sense can you make of the situation? use the evidence base to help you analyse what happened. if you are discussing a clinical situation then what does the evidence base recommend as best practice? is this what occurred or was it the case that best practice was not followed? you can do the same for a teamwork or leadership issue, by reviewing the evidence base and identifying what is recommended. the highest number of marks are going to the analysis section, so this is where you need to be most in-depth. conclusion having undertaken the reflection, what will your approach to the same situation be in the future? action/learning plan what is your action/learning plan to resolve any deficits you might have; are there any courses you could undertake? if so, what are you hoping to learn from them and when will you aim to complete them by? be specific in your action plan this assessment should be submitted in a modified essay format. this means students are required to include an introduction, body, and conclusion in their work. headings should be used - but dot points, lists, pictures, and tables are not acceptable. you will need to analyse the current literature including research papers and journal articles to answer the question. the essay must

show evidence of critical analysis, synthesis, and evaluation of relevant research literature. that is, textbooks and other secondary sources do not qualify as suitable reference material for uncovering the evidence base for best practice. pubmed, the cumulative index of nursing and allied health literature (cinahl) and medline are useful sources to locate the research evidence for this essay. protocols may be used as references if relevant to the case study and contemporary australian nursing practice; however, of possible you should reference the original source. grading criteria/rubric: students are encouraged to review these criteria while developing their work, when reviewing the final submission and when considering feedback. assessment top tips: • read the marking criteria to appreciate where marks will be given • ensure you proof-read your assignment for typographical and grammatical errors • ensure referencing style is apa 6th or 7th edition • use the gibbs (1988) reflective cycle and structure your assignment around the stages of the cycle (use headings) • choose a specific aspect of the simulation experience to reflect on, for example, a particular patient you cared for and reflect on a technical (clinical skills) and a non-technical (teamwork/leadership) aspect of the situation • support your reflection with the evidence base particularly when you are reflecting on clinical practice (technical skills) or an aspect of teamwork or leadership (non-technical skills) • at the conclusion of your reflection identify a plan for your further learning, for example, if you reflected on an area of clinical practice that you believed you lacked knowledge in, then how will you address this knowledge deficit. example for your reference: nurses and midwives' reflection process https://workingwellsolutions.com/reflection-gibbs-model-

Marlee Ly 480 245 463
Fernanda Barbosa 490295775
Jasmin Hossain 490 410 172

NURS 3016 / NURS 3019
Clinical Skills Laboratory Simulation

Scenario
You and your team are responsible for four beds in the Girra-girra emergency ward. We have given you patient information for four patients who may arrive at any time during your scenario time. You will need to work as a team and adapt as the scenario and patients evolve.
You will need to prioritise patient care and use your resources effectively. Remember that staff are often the most important resource. Where can you best place your team? Consider allocating a team leader prior to starting the scenario.
The four patients are:

- Christopher Robbin, 7-year-old with asthma exacerbation
- Dan Carter, 45-year-old with DKA
- Leigh Davis is a 74-year-old with uro-sepsis
- Anna Lee is a 15 year-old with ?psychosis

Key skills overall

1. Communication, delegation and management of patients in a team
2. Prioritisation of patient assessments and intervention

Anna Lee
Anna Lee is a 15 year-old girl who was brought to emergency by her mother late morning. Anna started to self-harm last year and has been seeing a counsellor for low mood. After the session today the counsellor suggested they attend the emergency department for a mental health assessment. Anna disclosed that a

little girl was waking her up in the night and following her around since they moved to their new apartment 8 months ago. Anna's mother has also noticed Anna has not been sleeping at night and has a few episodes of confusion at home.
Her parents have recently separated, and Anna and her mother needed to move to more affordable housing which has meant a new neighbourhood and school. While her father was diagnosed with schizophrenia in his early adult years, he has been well most of Anna's life. However, his mental status deteriorated significantly over the past year, and he has been in and out of hospital. Since the move, Anna has been struggling to make friends in her class especially with school closures due to COVID. Anna has been spending time with an older group of youth in their apartment block. She has started smoking cigarettes with them and her mother is concerned that they may be experimenting with other substances.
No allergies. No health history, R wrist # playing soccer at 9 years of age.

Key Skills

1. Communicate and offer appropriate support to patient and family (throughout)
2. Undertake primary survey with your team ABCDEFG, document in the nursing notes, including obtaining vital signs from the mannequin and document these onto the SAGO chart (10 mins)
3. Perform and document an MSE and a psychosocial assessment (20 mins)
4. Safely administer oral sedation (10 mins)
5. Plan patient education and identify community referral resources (5 mins)
6. Practice clinical handover and effective communication with team using ISBAR (5 mins)

Practice Preparation Case Scenario Data
Assessment
When you enter the room Anna is turned with her back to her mother staring at the wall. She turns to you and shouts angrily, "I'm fine. I don't need to be here". She is biting at her nails and has pulled the hood of her sweater over her head. Anna's observations are: T36.2C, RR 20 bpm, Sp02 99% RA, chest symmetry equal, easy unlaboured respirations, HR 98 bpm, sinus rhythm, BP 122/78 mmHg. She has some scars and superficial cuts on her forearms bilaterally. Her weight is 45 kg. GCS 15. She is oriented to person, place and time. She has not had anything to eat or drink today but has just voided on arrival.

You sit down and are successful in starting to engage her. You notice her voice is strained and she stutters a little which is not usual for her. She is struggling to sit still and has reported feeling anxious and angry. Her mother goes to use the toilet. You ask about self-harming, she says that she has some on her thighs similar to her forearms but refuses to show you and says her mother doesn't know about them. Her mother returns. You need to now do an MSE and psychosocial assessment.

1. Consider the case scenario

- Age: 15 years old
- Sex: Female
- Weight: 45 kilograms
- Mental health history: self harming (last year), has been attending counselling for her low mood, no known allergies, right wrist fracture playing soccer when she was 9 years old
- Mental health assessment at ED admission: she states that a little girl has been waking her up during the night and following her around since her and her mother moved into their new apartment 8 months ago
- Insomnia (poor sleep) and episodes of confusion
- Social history: parents are separated, reallocated to a new neighbourhood and school, dad has a medical history of schizophrenia

- She smokes cigarettes and other potential substances
- Observations: T36.2C, RR 20 bpm, Sp02 99% RA, chest symmetry equal, easy unlaboured respirations, HR 98 bpm, sinus rhythm, BP 122/78 mmHg. She is orientated to person, place and time
- Wounds: she has scars and superficial cuts on her forearms bilaterally. Patient states scar on thighs but not yet witnessed by nurse
- Patient has not yet eaten or drank today but did void on arrival

2. Collect cue/information

- o Plan and practice a systematic A-G approach to assessment and include relevant data from the case scenario. Obtain the vital signs from the mannequin and document these onto the SAGO chart

	Look	Listen	Feel
Airway	Airway patent, maintaining own airway	Voice is strained and she stutters a little which is not usual for her	
Breathing	Chest symmetry and equal Easy, unlabored respirations RR - 20 SpO2 - 99% on room air		Bilateral chest movement
Circulation	BP - 122/78 mmHg HR - 98 bpm		
Disability	GCS - 15	Anna is oriented is person, place and time	
Exposure	Anna has superficial cuts and scars evident on both her forearms Temperature - 36.2 degrees C		
Fluid		Nil food or fluids today as stated by patient but did void on arrival	
Glucose			

- o In pairs, take turns role-playing Anna and the nurse for 10 minutes each. When you are playing Anna, each student should try to develop a slightly different narrative and demonstrate some different behaviours. When role playing the nurse, practice doing an MSE, and see how far you can get with engaging Anna in a psychosocial assessment, consider prioritising some of the areas given her presentation. Plan out how you might ask the questions around each domain that feel comfortable to you, referring to headspace's assessment guide, and complete the example questions column prior to your lab.

- Why is it important to reflect on your own beliefs and assumptions prior to engaging in this type of assessment?

It is important to reflect our own beliefs and assumptions prior to engaging in any assessment, particularly this one because our beliefs and assumptions may influence the way we treat and interact with patients. This can prevent us from providing appropriate and safe care for our patient, therefore it is important to acknowledge these beliefs and assumptions to ensure we place the patient in the centre of care.

- Would you include her mother? Why or why not?

Depending on the situation and Anna's relationship with her mother, we could include her in the assessment. However, making sure Anna is comfortable with her mother being present is important. If including her mother will help the assessment and provide good quality care whilst in hospital then her mother can be included. If her mother is not helpful and can negatively impact her care and assessment then it would be recommended her mother not be present.
As stated in this scenario, Anna has slowly opened up to the nurse when the mother is not present, she states she doesn't want her mother to know. When assessing and caring for Anna, ensure patient privacy and confidentiality. By allowing a therapeutic relationship between the nurses and Anna; and her being able to know the nurses will keep her information confidential, this can ultimately benefit her recovery.
We should not include her mother unless Anna is at risk of harming or killing herself, if she is at risk of harming someone else or committing a serious criminal offence or if Anna was being threatened or harmed (whether that be physical or sexual abuse) by someone else
As Anna is under adult age (15 years old), her mother still has authority and guardianship and she still has to be updated about her daughter, however ensure maintaining privacy and confidentiality on certain issues. This ensures a therapeutic balance of good rapport and trust built between the healthcare professionals and the patient.

- How do you establish confidentiality? What are its limits in Anna's case?

As Anna is only 15 years old, she is not considered an adult and her mother is required to be involved in her care. Her mother is also required to be updated in regards to her daughter and kept in the loop. However, health professionals should still maintain privacy and confidentiality in some circumstances to build rapport and trust, as well as allow for more positive outcomes. Health professionals need to understand the balance and ensure not to breach any confidentiality in regards to Anna. As stated in the answer above, we do not need to breach confidentiality unless Anna is at risk of harming or killing herself, if she is at risk of harming someone else or committing a serious criminal offence or if Anna was being threatened or harmed (whether that be physical or sexual abuse) by someone else.

Mental State Examination			
Component		**What to assess**	**Assessment**
Appearance and behaviour	Physical appearance	Gender; ethnicity; body habitus; apparent age; cleanliness and grooming, hair/clothing style, cosmetics and jewellery; syndromic features	15 years old Female 45 kilograms Wearing a hoodie Superficial cuts and scars on both forearms

	Manner of relating to clinician and parents	Ease of separation from each parent; reactions to meeting the clinician (e.g. eagerness to please, defiance, overfamiliar); eye contact; facial expression. ***Note presence of hallucinatory behaviours*** (e.g. talking to self; laughing incongruently)	Turned with her back to her mother, staring at the wall. She yelled angrily "I'm fine. I don't need to be here" When her mother was not around - she opened up about herself harm with the nurse She is seen biting her nails
	Activity level	***Psychomotor slowing or agitation***, sustained or episodic, goal-oriented or erratic; coordination, unusual postures or motor patterns (e.g. tics, stereotypies, odd mannerisms, tremors).	She is seen quite jittery and unable to sit still for long
Speech		Spontaneous and talkative to ***mute***. Fluency, rate, volume, tone	She reports feeling anxious and angry Her voice is strained and she stutters a bit - it is not common for her She raised her voice when she was yelling angrily: "I'm fine. I don't need to be here"
Mood		Predominant emotion (describe by the person) over days/weeks (e.g. euthymic, apathetic, angry, dysphoric, apprehensive, euphoric). Use 0-10 scale (0: extremely sad & wishing to end life immediately, 10: extremely happy).	Patient was angry when first seen by the nurse but when the mother wasn't present, the patient calmed down and engaged well with nurse
Affect		Current observed emotional state. Describe type, range (constricted to labile), reactivity (***blunted or flat*** to reactive), & appropriateness	
Thought	Stream (eg. speed)	Poverty of thought (***thought blocking***), poverty of content (***perseveration***), racing thoughts, ***flight of ideas.***	
	Form	Logical & goal-directed or ***disordered*** (e.g. circumstantial, tangential, derailment, looseness of associations, word salad).	She was logical and was well orientated
	Content	Obsessions, ***delusions*** (e.g. persecutory, referential, grandiose, somatic, bizarre), phobias, magical thinking, ***thoughts of harm to self or others.***	Patient had scars and superficial cuts to her forearms bilaterally, she stated she had some on her thighs as well
Perception		Altered bodily experiences (e.g. depersonalization, derealization), ***passivity***	Patient stated that she has been experiencing (possible hallucinations)

		phenomenon, illusion, ***hallucination*** (e.g. auditory, visual, olfactory, tactile).	where she has seen a little girl who kept waking her up through the night and following her around since she and her mother moved houses 8 month ago
Cognition	Level of Consciousness	Alert, drowsy, ***delirium,*** stupor	She is alert
	Orientation	Awareness to ***confusion*** of self, current setting, date & familiar people.	Anna is orientated to person, place and time
	Attention	Need for redirection/repeating, sustained activity, distractibility.	
	Memory	Immediate (e.g. repeat numbers, names back), short-term (e.g. recall three objects at 2 and 5 minutes), long-term (e.g. recall events of past week).	
	Ability	Impression of current abilities; concrete to abstract thinking.	
Insight & Judgement	Insight	Intact, partial or ***poor insight.*** Ability to identify potentially pathological events (e.g. hallucinations, suicidal impulses); acknowledgement of a possible mental health problem; locus of control (internal v external).	
	Judgement	Intact to ***impaired judgment.*** Problem solving ability in context of current psychological state (can be explored by recent decision making).	

headspace's adapted psychosocial assessment (adapted from HEADSS assessments)		
Domain	**Example Questions**	**Assessment**
Home and Environment	Who do you currently live with? Where do you live? How long have you lived there for? The place where you are currently living, do you consider it a stable accommodation for you?	Anna lives with her mother in an apartment.

	How is your relationship like at home with your family? / Do you get along well with your mum? Do you feel safe at home? How does your family get along with each other?	
Education and Employment	Tell me about school What do you enjoy about school and what do you dislike? How is your school attendance? How are your grades doing? Do you have a current part-time job? If yes, what do do? Many people experience bullying either online or at school, have you experienced this before?	
Activities	What do you and your friends like to do for fun, like during the school holidays or weekends? What are your relationships like with your friends ? What does a usual weekend look like for you? Can you describe me through your average weekend? Do you enjoy spending time on your own? What kind of sports and clubs are you interested in?	
Alcohol and Other Drugs	What kinds of drugs have you seen around your school or at parties? Do any of your friends use drugs or alcohol? How often are you using drugs or alcohol? What do you like or dislike about drugs and alcohol? What are the reasons as to why you use drugs and alcohol? Is it to destress, relax or for fun with your friends? When using drugs and alcohol, have you ever encountered any problems with the police, family or friends?	
Relationships and Sexuality	You told me you have been going out with someone for the past few months. Has your relationship become sexual? Are you currently attracted to anyone? How do you sexually identify?	

	For young people who are same sex attracted, have you ever experienced any negative encounters, due to being gay/bisexual/lesiban	
Conduct difficulties and Risk-taking	Do you have any thoughts of wanting to hurt or kill yourself? Have you recently deliberately harmed or injured yourself? Have you heard about self-harming? Have you ever cut, burned or scratched yourself deliberately as a form of self harm? When did you start self-harming? Why did you start self-harming? Was it to relieve stress, or to manage unwanted emotions? Have you been in a risky/dangerous situation such as being in a car with an unsafe driver or having unsafe/unprotected sex? Did you ever experience wanting to harm someone else? Did you act on this? What stopped you from doing this thought? Have you felt that your behaviour has ever been out of control?	Anna has scars and superficial cuts on her forearms bilaterally - self-harm
Anxiety	Do you experience times where you feel scared or anxious in certain situations? Such as heights, public speaking? Where have you particularly felt really anxious? In what cases/situations? When have you felt really anxious to the point you wanted to vomit? For no reason at all? Can you describe what that was like? Have there been particular situations or objects where you tried to avoid because you felt too anxious?	Anna seemed quite jittery - she was not able to sit still during initial assessment but was able to calm down eventually
Eating	Tell what you think about your weight and shape Tell me about what you like and don't like about your body	
Depression and Suicide	Have you been expressing low moods or feeling down recently? How long have you felt this way? What makes you feel this way? Have you recently lost interest in your hobbies or things you used to enjoy doing? Have you been experiencing poor sleep quality?Have you been able to sleep?	

	Have you been slowly spending less time with your family? Do you prefer to be alone? What are the reasons you enjoy being alone?	
Psychosis and Mania	Under some circumstances, especially stressful circumstances, people may hear or see things that they normally would not. Have you recently experienced this lately? Does this cause you stress? What does this do to you? Have you recently felt that someone was out to get you? Or following you? Some Days do you ever suddenly feel invincible and really racy? Where do you feel you can take on the whole world? Have you ever stayed awake for days without sleeping? If so, how many days have you been awake for?	Anna has not been sleeping well at night → she stated that "a little girl was waking her up in the night and following her around" this has been happening since her and mother moved into their new apartment 8 months ago

3. **Process the information**. Analyse and interpret data collected; discriminate important aspects of the data; relate clusters of cues; infer understandings of information; match situations to past and current understandings; and predict possible outcomes.
    - What deviates from a normal assessment finding?

Anna has not been sleeping well at night → she stated that "a little girl was waking her up in the night and following her around" this has been happening since her and mother moved into their new apartment 8 months ago
She had a few episodes of confusion at home
Anna has scars and superficial cuts on her forearms bilaterally
When talking, Anna seems to have a strained voice and is stuttering - this is seemed unusual for her
She stated that she has not had any fluid and food intake today but has voided on arrival
Her vitals signs are between the flags (BTF)

    - What items can you group together?

Mental health - this could do with her parents separating and her living in a new environment; being unable to sleep with the hallucination of the little girl following her through the night
Anna has had a few episodes of confusion at home. She had a strained voice and was stuttering - which is unusual for Anna. These signs could indicate her mental health deteriorating or perhaps the side effects of the illicit drugs she has been taking with her friend group.

    - What are the most important findings?

Anna finds it difficult to sleep at night with the hallucination of the little girl - this could worsen her mental health/state. She has scars and superficial cuts on her forearms bilaterally - she stated that she also has cuts on her thighs and to not inform her mother.
The hallucination of the little girl following her at night could be a side effect of the drugs she is taking or could be a sign of something worse.

4. **Identify problems and issues**. Synthesize the information.

- What are your impressions? What are you most concerned about? Why?

The side effects of the drugs she may be taking could be resulting in the poor sleep habit and the hallucinations. As a result it could lead to psychosis. If she is asked to cease the drug use, it may impact the relationships she has with her current friends - which could also impact her mental health as well. This could overall negatively impact the relationship with her mother too if her mother asks her to stop hanging around those friends. These can all result in poor mental health and psychosis if not resolved.

5. ***Establish goals***
   - What do you think needs to happen? In what order of priority?

1. Introduce yourself to the patient and her mother. Let them know together and individually that everything is to remain confidential and private, only the healthcare team has access to this information to help with planning care.
2. Perform an A-G assessment is to be done
3. MSE and psychosocial assessment to further provide more background for her mental health and psychosocial environment
4. Contact medical officer to review patient and prescribe medication that can assist in her care, plan the appropriate care for Anna

- What outcomes would you like to avoid? What outcomes would you like to see?

Outcomes we want to avoid:

- Distancing her from her mother
- Thoughts of self-harm or suicidal thoughts
- Insomnia - poor sleeping patterns
- Further episodes of hallucination

Outcomes we want to see

- Better sleep outcomes
- minimal/nil episodes of hallucination
- Better sleep patterns
- Nil thoughts of self-harm/suidicide
- Improvement and recovery of her mental health
- Better overall health outcomes
- Cessation of drug/alcohol use
- Better relationship with her mother

- What is your time frame?

Progressing with Anna's care as soon as possible ensures for the recovery process to start sooner. This allows us to prevent further deterioration in her mental state. However the recovery process is dependent from individual to individual, this can take from a few days to months.

6. ***Take action.***
   - Plan out the interventions you will practice in the lab.

1. Perform A-G assessment
2. Perform the MSE and psychosocial assessment
3. Contact medical officer regarding medications/plan of care
4. Administer appropriate chartered medication
5. Provide appropriate patient education on care and interventions - give/inform patient on helplines when in distress (lifeline phone numbers/headspace)
6. o How did you work together as a team?
7. Contact community services that may assist in looking/taking care of Anna post discharge.

- What further information do you need? What guidelines/protocols/pathways are relevant?

Every hospital has different guidelines/protocols in place for mental health patients. Reading on these would be helpful in planning patient care. MSE must be performed when assessing a patient with mental health conditions.

- When performing your assessments, should Anna's mother stay in the room? Why or why not?

It can be helpful having her mother there for assessments, as she does know Anna quite well and she must be included in Anna's care. The mother is able to give us information that Anna may not have thought of and from a mother's perspective. The information given by her mother may be helpful in the MSE assessment. However, for the psychosocial assessment, her mother can leave as Anna may want to speak about more personal thoughts and experiences without her mother present. This allows for better rapport between Anna and the healthcare team, but also allows the mother to remain in the loop.

- After being in the department for 1.5hours you hear Anna screaming and she has thrown her mother's phone at the wall, breaking the screen. Do you need to call for help? If so, when and what would you say? (use ISBAR)

I: Hi Im _____. I'm calling from the emergency department. I'm the nurse looking after Anna in bed ____.
S: She is a 15 year old female who is 45 kilograms. She was admitted into ED, as her counselling suggested. She screamed and threw her mother's phone at the wall. Her mother brought her in as Anna stated she has been seeing a little girl who was waking her up during her sleep and following her around. She has also had a few episodes of confusion.
B: Her parents have separated resulting in Anna and her mother moving away from their neighbourhood and new school. Her father has a history of schizophrenia and has presented with it through Anna's childhood life. Since their move to a new neighbourhood and school, Anna has been struggling to make friends, however she has been hanging out with people in her apartment block who have been suspected to be smoking and doing illicit drugs.
A: On examination, all her vital signs are between the flags. She is alert and orientated to person, place and time. Initially she was quite jittery and could not sit still when assessing, however calmed down after sometime. She has scars and superficial cuts on her forearms bilaterally and disclosed to the nurse that she also has some scars on her thighs, this was disclosed without her mother present and would not like her mother to know. She stutters and has a strained voice which is deemed unusual for Anna. We have performed an MSE assessment as well as a psychosocial assessment to figure out whether she would be suffering psychosis.
R: In order to calm her down, I recommended some sort of medication. If possible, if this could be done as soon as possible as Anna is quite aggressive and upset at the moment, this could prevent further escalation of her mood. Thank you.

- The ED physician orders Olanzepine 10mg orally x 1 stat dose. Anna agrees to take the medication orally. Administer Olanzapine 10mg orally x 1 stat dose. Prior to lab identify the appropriateness of this intervention, and the rights of medication administration. Consider contraindications, drug interactions and side effects, as well as appropriate patient education. MIMS and AMH are available via the university library website

Generic Drug Name: Olanzapine	Trade/Brand Name: Zyprexa Zydis

Classification: Antipsychotics	Schedule: Schedule 4 medication

Action: Antipsychotic actions are thought to be mediated (at least in part) by blockage of dompaniergy transmission in various part of the brain.
Effective antipsychotics block D2 receptors
Differential blockage of other dopamine receptors (e.g. D1) may influence therapeutic and adverse effects
Antagonism of other reeptos mayi nfleucen antipcyhotic acitivty e.g. 5HT2 antagonism with some agents

Use/indication:
Antipsychotic drug used in management of schizophrenia, bipolar, and agitation associated with these disorders

Route and Dose:
Tablet: 10mg, 28, Ozin, Pryzex, Zypine, Zyperexa, PBS-A
Tablet: 10mg (scored), 28, Olanzapine, PBS-A
Tablet: 10mg (orally disintegrating), 28, Pryrez, PSA-A
Tablet: 10mg (orally disintegrating, scored), 28, Olanzapine
Wafer, 10mg, 28, Zypine ODT, Zyprexa Zydis, PBS-A
Olanzapine wafer for children over 40kg > weight and max 10mls

Interactions:
benzodiazepines + olanzapine
A parenteral benzodiazepine given simultaneously with short-acting IM olanzapine is contraindicated (may cause cardiorespiratory depression, excessive sedation; deaths have been reported); wait at least 1 hour after IM olanzapine before giving a parenteral benzodiazepine; carefully consider use of IM olanzapine after using a parenteral benzodiazepine and monitor cardiorespiratory status and sedative effect.

carbamazepine + olanzapine
Carbamazepine may increase olanzapine's metabolism, decreasing its concentration and possibly its activity; monitor clinically as may need to increase olanzapine dose.

fluvoxamine + olanzapine
Fluvoxamine may inhibit olanzapine metabolism and increase its concentration and risk of adverse effects; monitor for olanzapine's adverse effects and decrease its dose if necessary.

ritonavir + olanzapine
Ritonavir may increase the metabolism of olanzapine, reducing its concentration; monitor clinically and increase olanzapine dose if necessary.

valproate + olanzapine

Valproate may decrease olanzapine concentration (by about the same extent as smoking tobacco) and may affect its clinical effect; monitor clinically and increase olanzapine dose if necessary.
Nursing Considerations (include drug reconstitution, dilution, compatibilities, administration times, etc, as needed): - Adverse effects - hyperglycemia, type 2 diabetes, peripheral oedema, possible weight gain, hypotension - Child and adolescents are at greater risk for acute dystonic (involuntary muscle contractions) compared to adult patients - More sedating agents, such as olanzapine, clozapine, are more likely to impair cognition and therefore learning at school - Provide patient education

- After learning about the side effects, Anna refuses to take the Olanzapine. Her mum would like her to take it. Legally who decides? What do you do?

Anna is under the age of 16, which is the legal age to be considered an adult in healthcare, her mother has the legal rights to decide for Anna. However, providing alternatives and further patient/family education could help come up with a solution that allows both parties to be satisfied and cooperate.

- Anna agrees to take Diazepam instead. The ED Physician orders Diazepam 5mg orally x 1 stat dose. Prior to the lab, identify the appropriateness of this intervention, and the rights of medication administration. Consider contraindications, drug interactions and side effects, as well as appropriate patient education.

2 NURSE S4 MEDICATION TO GIVE DIAZEPAM

Generic Drug Name: Diazepam	Trade/Brand Name: Valium
Classification: Benzodiazepines	Schedule: Schedule 4 medication
Action: Diazepam is a benzodiazepine that exerts anxiolytic, sedative, muscle-relaxant, anticonvulsant and amnestic effects. Most of these effects are thought to result from a facilitation of the action of gamma aminobutyric action (GABA), an inhibitory neurotransmitter in the central nervous system Benzodiazepines potentiate the inhibitory effects of GABA throughout the CNS, resulting in anxiolytics, sedative hypnotic, muscle relaxants and antiepileptic effect	
Use/indication: Management for anxiety disorders, short-term relief of anxiety symptoms, specifically associated with upper motor neuron disorders, adjunct therapy for muscle spasms, preoperative anxiety relief and management of certain refractory epilepsy patients. - Short team management of anxiety / agitation - Acute alcohol withdrawal - symptomatic relief of acute agitation, tremor, impending or acute delirium tremor and hallucinosis - Muscle spasm and spasticity - relief muscle spasm due to local trauma (injury/inflammation) to muscles, bones and joints	

- Premedication - Procedural sedation - Status epilepticus - Valium is indicated for the management of anxiety disorders or for the short term relief of symptoms of anxiety. Anxiety or tension associated with the stress of everyday life usually does not require treatment with an anxiolytic -
Route and Dose: Tablet, 5mg (scored), 50, Antenex, Valium, Valpam
Interactions: fluconazole + diazepam Fluconazole may inhibit diazepam's metabolism, increasing the risk of adverse effects; monitor for adverse effects and decrease diazepam dose if necessary. rifampicin + diazepam Rifampicin may substantially increase the metabolism of diazepam, decreasing its concentration and clinical effect; may need to increase diazepam dose or use alternative benzodiazepine, eg temazepam. voriconazole + diazepam Voriconazole may inhibit diazepam's metabolism, increasing the risk of adverse effects; monitor for adverse effects and decrease diazepam dose if necessary. diazepam + phenytoin Diazepam may possibly increase or decrease phenytoin concentration; monitor phenytoin concentration, for loss of efficacy and for phenytoin toxicity; adjust phenytoin dose as necessary.
Nursing Considerations (include drug reconstitution, dilution, compatibilities, administration times, etc, as needed) - Adverse effects: fatigue, drowsiness, dizziness, effect on vision, slurred speech, hyperventilation, muscle weakness and ataxia - Contraindicated for those with respiratory depression - can stop breathing entirely - Use of benzodiazepines can lead to physical and psychological disorders; children and adolescents have increased sensitivity to CNS effects of benzodiazepines. Use in paediatrics is clinical limited, e.g. seizures - Provide patient education

7. ***Evaluate outcomes.***
   - Did you meet your goals as set out?

   - Did your interventions improve the situation?

8. ***Reflect and process***.
   - What worked well? What did not?

- Was anything missed? What would you do differently?

- What is needed next?

Dan Carter

Mr Dan Carter is a 45 year-old man who was brought to the Emergency Department via ambulance accompanied by his wife. According to Mrs Carter, Mr Carter felt unwell for at least one week, but was progressively worse over the last few days. This morning he had nausea and abdominal pain so he could not eat breakfast, and decided to skip his morning insulin. He vomited a small amount of fluid at home, then became drowsy, weak and confused. Mrs Carter describes that recently, Mr Carter has been extremely stressed managing his own business. He has been working long days, eating irregularly and so skips insulin when he misses meals. He often has poor appetite. He currently weighs 70 kgs and has lost 3kg in the last two weeks. His current HbA1c is 14.

***History**: Type 1 diabetes. Regular medication: Lantus (Glargine) 10 units twice daily (insulin pen).*

Key Skills

1. Communication within the team and offer appropriate person and family centred-care and education if needed (throughout)
2. Undertake primary A-G survey with your team, document in the nursing notes, including obtaining vital signs from the mannequin and document these onto the appropriate SAGO chart. (5 minutes)
3. Safely administer IV fluids with potassium with appropriate checks and documentation (15 minutes)
4. Prepare check and commence IV short-acting insulin (Actrapid) infusion (10 minutes)
5. Prepare, check and administer subcutaneous long-acting (Lantus) insulin (10 minutes)
6. Identify necessary ongoing monitoring and assessments required and practice clinical handover with team use ISBAR. (5 minutes)

Practice Preparation Case Scenario Data

Mr Carter is triaged and brought into the Resus bay. You take over care at 0900hrs. His assessment data is as follows. Remaining vital signs can be taken from the mannequin.

***Assessment at 0900hrs:** Patient is alert but slightly confused – not orientated to time and cannot recall events of this morning and last week. GCS 14. PEARL. Tells you he has ongoing generalised abdominal pain (2/10) and nausea. Temp 37.0C, Cap refill=3sec, peripherally slightly cool to touch. HR 118, BP 95/60. ECG shows normal sinus rhythm. Sp02 96% in room air. RR 28. Chest clear on auscultation. Abdomen distended. Tongue coated and poor skin turgor. Voided 600mL in bottle upon arrival. Skin is intact other than IVC inserted by paramedics, but appears dry.*

***Diagnostic results:** BSL by glucometer reads 'HI' and ketones read 4.0mmol/L.*

Midstream Urinalysis: appears very pale yellow. Blood - neg; bilirubin - neg; urobilinogen - neg; nitrite - neg; leucocytes - neg; protein - trace; ketones - 40 (mod); glucose - 1000; pH - 6.5; and specific gravity - 1.005.
Bloods - ABG PH7.20, PaO2 69mmHg, PaCO2 40mmHg, HCO3 14mmol/Ls, Electrolytes corrected Na144, K+ 4.0
***Diagnosis:** DKA*
***Plan:** A second IVC has been inserted. Patient has just finished receiving 1L of 0.9% sodium chloride intravenously when you take over care. You need to continue treatment as per the DKA guidelines (MO has prescribed orders).*

Note for team: ask tutor for BGL, give for K+ with a mix of sodium and big syringe driver insulin pump (need tutor to help), small syringe and insert in big syringe, do urinalysis (checking ketones)

1. ***Consider the case scenario***
    - *List relevant facts and context for the case scenario provided.*

Sex/gender: Male
Age: 45 years old
Weight: 73kg down to 70kg (weight loss in the last two weeks)
Patient has been stressed lately – working long hours
- Skipping meals and insulin (= lack of insulin – increase in ketones)
- Unwell for past week and progressively getting worse over past few days (Body compensating for lack of insulin)

Patient presents with nausea and abdominal pain. Patient has vomited a small amount of fluid at home and has a poor appetite. He has been skipping his regular insulin as he also skips meals at home. Patient has become drowsy, weak and confused. Wife has stated the patient has been extremely stressed with thus the poor appetite and poor eating habits.
Medical history: Type 1 Diabetes
Regular medications: Lanuts (Glargine) 10 units twice daily through insulin pen
Allergies: Nil Known Allergies
Diagnosis: DKA (Diabetic Ketoacidosis) where deficiency and absence of insulin where there are high ketones in the blood = this reduces blood pH.
Blood pH should be <7.35 (7.35-7.45) → DKA occurs when patient does not take enough insulin
Signs of DKA:

- Potassium (K+) is depleted = hypokalemia → this is lost in the urine
- Hyperglycemia - as insulin is not given = increased blood glucose levels
- Metabolic acidosis: increased free fatty acids, amino acids and ketones
- Arterial blood gases (ABGs): PH7.20 < 7.35
- CO2: PaCO2 40mmHg (10-20mmHg)
- Positive serum ketones: ketones read 4.0mmol/L
- Serum Bicarbonate level: PaCO2 40mmHg (<15mmol/L)
- Glucose and ketones present in urine

Social history: lives with wife

- *Review the DKA pathophysiology and relate to Mr Carter's clinical presentation and laboratory results. See: Ouch, S. & Tran, T. (2017). DKA Mind Map. View at: https://prezi.com/zwvmfegyqibm/dka-mind-map/*

Patient did not take insulin although he has diabetes. There is a build up of glucose in the blood when insulin is not taken. The cells in the body are unable to utilise it as energy and therefore the cells use fats for energy which results in the production of ketones. The increased level of ketones produced can result

to diabetic ketoacidosis. Ketoacidosis can change the amount of substances such as electrolytes present in the body. High levels of glucose in the body can lead to further symptoms like nausea and lethargy. Side effects of DKA that is currently experienced by Mr Carter include:

- Lethargy/fatigue
- Weakness
- Abdominal pain
- Stress can induce DKA
- Blurred thinking
- Nausea and vomiting
- Altered LOC (GCS = 14, patient is alert but confused, patient not orientated to time)
- Dehydration - peripheries are cool to touch → poor blood flow/circulation → decrease blood volume
- Poor skin turgor
- Tachycardia (HR 118)
- Tachypnea (RR 28)

Urinalysis

ABG results
- Hypokalemia = H+ entering cells pushing K+ into extracellular space = excreted
- Hyperglycemia = too much glucose – not being absorbed
- insulin deficiency – impair protein synthesis, excessive protein degradation = nitrogen loss, stimulate glucose production from amino acids in liver = increased sugar level
- Metabolic acidosis increased lipolysis, proteolysis, ketosis = increased free fatty acids, amino acids and ketones

Hyperglycemia = BSL = 14+
CBC – increased WBC = stress or infection
Positive serum ketones

ABG – pH <7.35
Serum Bicarbonate <15mmol/L
CO2 10-20mmHg
Urinalysis – glucose + ketones (Glycosuria + ketonuria)
Fluid and electrolyte imbalance = polyuria, polydipsia (thirst)
Dehydration – poor skin turgor, dry mucous membranes, tachy, orthostatic hypotension, altered LOC
Dehydration = lethargy + weakness
Severe dehydration = dry loose skin, sunken eye socket
Metabolic acidosis kussmaul respiration (rapid, deep breathing with dyspnea), nausea and vomiting and abdominal pain
Ketosis – sweet fruity breath – acetone
Past history, fam history, physical examination

2. ***Collect cue/information***
    - *Plan and practice a systematic A-G approach to assessment, including relevant data from the case scenario. Document in nursing notes. Obtain the vital signs from the mannequin and document these onto the SAGO chart*

	Look	*Listen*	*Feel*
Airway	Airway is patent and maintaining own airway Chest raise bilaterally	Speaking in full sentences without problems	
Breathing	RR 28 SpO2 96% on room air	Nil sounds on chest auscultation	
Circulation	HR 118 BP 95/60 ECG normal sinus rhythm Capillary refill time < 3 seconds		Peripheries are slightly cool to touch
Disability	GCS 14 PEARL	Patient reports of ongoing generalise abdominal pain (2/10) and nausea	
Exposure	Temperature 37.0 degrees C IVC inserted		Abdominal distended
Fluid	Voided 600ml in urine bottle upon arrival		
Glucose	BGL reads 'HI" Tongue coated Ketones at 4mmol/L HbA1c: 14		

3. ***Process the information****. Analyse and interpret data collected; discriminate important aspects of the data; relate clusters of cues; infer understandings of information; match situations to past and current understandings; and predict possible outcomes.*
    - *What deviates from a normal assessment finding?*

Tachypnea - RR 28 (high and rapid respiratory rate), deep breathing from patient - signs of dyspnoea as a result of of metabolic acidosis
Tachycardia - HR 118 (can be a result of dehydration)
Low blood pressure (hypotension) - BP 95/60. Orthostatic hypotension as a result of dehydration (low blood volume)
High ketones levels 4mmol/L and 'HI' reading of BGL
Abdomen distended, patient reported generalised abdomen pain (2/10) - could be a result of the metabolic acidosis

As a result of dehydration: poor skin turgor, tongue coated, altered LOC
Patient reporting nausea - may be a result of metabolic acidosis
Hb1Ac: 14

4. ***Identify problems and issues****. Synthesize the information.*
    - *What are your impressions? What are you most concerned about? Why?*

Patient has high ketone and BGLs results, nausea and abdominal pain → as a result of diabetic ketoacidosis
Dehydration: seen in his poor skin turgor, fluid loss and frequency urination, hypotension, coated tongue (query yeast infection) e.g. oral thrush
Poor circulation from his cool peripheries
Tachypnoea - compensation for the buildup of ketones and the electrolyte imbalance within the body

5. ***Establish goals***
    - *What do you think needs to happen? In what order of priority?*

Commence A-G assessment
Ensure patient's airway, breathing and circulatory systems are appropriate and not in danger, patent airway and maintaining own airway, administer oxygen if appropriate
To address dehydration, electrolyte imbalance and to increase BP - fluid resuscitation until BP has stabilised and urine output 30-60ml/hr - increase fluids and electrolyte replacement - infusion of 0.45% or 0.9% of NaCl IV)
Electrolyte replacement (replacement of K+ is important in hypokalemia: maintain fluid regimen of NaCl resuscitation and K+ replacement for 36-48 hours)
Insulin therapy (held until fluid resuscitation is underway and serum potassium is > 3.3mmol/L) - insulin via IV (to address DKA, corrects altered metabolism of fats, carbohydrates, proteins) → 0.1 units/kg/hr IV insulin bolus should never be given → may lead to neurological deterioration
Address DKA - reversing and correcting ketoacidosis - continue monitoring BGLs and ketones levels (blood and urine ketones - serum glucose K+ and pH levels)
Continue to monitor for complications and vital signs such as VS, level of consciousness, cardiac rhythm, SpO2, urine output)
Ascertain the causes, patient skipping meals and not taking their insulin
Perform mental status examination
Fluid balance charts and food charts (recording intake and output)
ECG monitoring
Assess cardiovascular and respiratory status (auscultation chest sounds for possible fluid overload)
Provide patient and family education about DKA and the consequences, ensure to educate in diabetes management and the importance if insulin compliance, educate patient on eating appropriate and healthy meals and to exercise
Refer patient to psychological supports such as counselling if required
When a patient is sick, the body releases certain hormones that increase BGL that make it difficult for the body to reduce BGL levels; when the occurrence of being sick check BGL every 2-3 hours as appropriate.
Ensure to take insulin as schedule even when sick - reduces the risk of DKA
Check ketones in blood and urine every 4 hours, administer/intake rapid-acting insulin if ketones are present in urine

    - *What outcomes would you like to avoid? What outcomes would you like to see?*

Outcomes to avoid: severe hydration and neurological deterioration

Positive outcomes: patient observations returning BTF, patient experiencing no pain, reduced ketones levels (no ketones present in the urine), blood glucose levels maintaining BTF 4-8mmol, GCS of 15 and improved LOC, patient adequately hydrated, skin turgor improvement, warm peripheries, side effects improved, and better controlled appetite

- *What is your time frame?*

Normal recovery for a patient recovering from DKA is about one to three days in hospital. Time frame would likely be one to three days.

6. ***Take action***
   - *Review the guidelines for DKA management, as well as the plan for Mr Carter. Does his treatment align with the guidelines? Does it address your identified concerns?*

NSW Health, Northern Sydney Local Health District. (2018). Diabetes Guideline for the Management of Diabetic Ketoacidosis in Adults. See Canvas for guideline.

Protocols and guidelines for DKA management

- IV fluid bolus
- Maintenance fluid rate
- Bicarbonate administration (should only be given to patients with severe acidosis, with pH of <6.9 or in severe refractory shock)
- Electrolyte replacement (K+)
- Insulin therapy

DKA management plan for Mr Carter:

- The second insertion of IVC
- Patient has finished receiving 1 L of 0.9% sodium chloride intravenous - for hydration management
- Electrolyte imbalance therapy (K+) and insulin therapy (IV short-acting actrapid infusion)
- Subcut long acting lantus insulin (continue scheduled subcutaneous insulin)

- *Remember the acronym "A PINCH" for high-risk medication (see CEC link in resources). Does anything ordered for Mr Carter fall into these categories? If so, what precautions will you take?*

A (Anti-infective) - NA

P (Potassium and other electrolytes) - infusion of K+ may be too rapid therefore the use of a infusion pump will assist in controlling the rate; the incorrect infusion rate programming is very fatal therefore the use of a pump is more accurate and less likely to result in a fatality, double check on the program and get a second RN to witness and double check

- Ensure to have no administration errors - the difference of units of measurements and the selection of the wrong ampoule (ensure when programming to choose the right measurements as charted)
- Make sure to mix mixture appropriately and with the right amount as failing to mix the required amount of potassium chloride in an infusion can cause fatality

I (insulin) - precautions of sharps - the safety pen needle used when injecting insulin to prevent needle stick injury, ensure to administer the correct dose of insulin

N (narcotics) including opioids and other sedatives - NA

C (Chemotherapeutic Agents) - N/A

H (Heparin and anticoagulants) - N/A

- *What medications do you expect to administer? Look up each medication and be ready for administration. Prior to lab go through how to reconstitute and administer specific medication (including appropriate concentrations and rates for IV medications), and the rights of medication administration. Consider contraindications, drug interactions and side effects, as well as appropriate patient education. The Australian Injectable Drugs Handbook and MIMS/AMH are available via the university library website.*

Generic Drug Name: Sodium bicarbonate	*Trade/Brand Name:* NA
Classification:	*Schedule:*
Action: Increases plasma bicarbonate, buffers excess hydrogen ion concentration, raises blood pH and reverse the clinical manifestations of acidosis	
Use/indication: Severe acidosis (pH < 7.0) which currently is at pH = 6.5	
Route and Dose: Intravenously (IV)	
Interactions: Mild interactions: - Aspirin - Balsalazide - Blessed thistle - Choline magnesium trisalicylate - Chromium	
Nursing Considerations (include drug reconstitution, dilution, compatibilities, administration times, etc, as needed): K+ replacement should be commenced as soon as possible to correct hypokalemia Continue the K+ replacement for about 36 - 48 hours	

Generic Drug Name: Sodium Chloride NaCl (0.45% or 0.9%)	*Trade/Brand Name:* NA
Classification:	*Schedule:*
Action: Regulates the amount of water within the body, treat and prevent sodium loss caused by dehydration, excessive sweating or other causes	

Use/indication: Dehydration and fluid resuscitation
Route and Dose: Continuous IV infusion
Interactions: sodium/water imbalance Acidosis
Nursing Considerations (include drug reconstitution, dilution, compatibilities, administration times, etc, as needed): Continuous infusion of 0.45% or 0.9% of NAcL IV until patient's BP is stabilized and when urine output is 30-60mlhhr (36-48 hours)

Generic Drug Name: Insulin	*Trade/Brand Name:* Actrapid
Classification: Short-acting insulin	*Schedule* NA
Action: Enhance cellular uptake of glucose through metabolism of glucose and glucose, inhibit lipolysis, inhibit glucose output	
Use/indication: DKA, T1DM, T2DM, gestational diabetes	
Route and Dose: IV at 0.1 units/kg/hr - Injection 100 units/ml, 3ml, 5, Actrapid Penfill, Humulin R, PBS - Injection 1oo units/ml, 10ml, 1, actrapid, humulin R, PBS	
Interactions: Pioglitazone	
Nursing Considerations (include drug reconstitution, dilution, compatibilities, administration times, etc, as needed): Insulin is held until fluid resuscitation is underway and serum potassium is > 3.3mmol/L Should be administered 30 minutes before meal Can last up to 6 - 8 hours Onset is 30 mins If mixing insulins then short acting must be drawn first to prevent contamination; do not mix short-acting insulin and long acting insulin Hospital protocols and policies must be followed for DKA management	

Generic Drug Name: Insulin	Trade/Brand Name: Lantus
Classification: Fast Acting Insulin	Schedule: N/A
Action: Enhance cellular uptake of glucose through metabolism of glucose, inhibit lipolysis, inhibit glucose output - lowering levels of glucose in the blood	
Use/indication: Diabetic ketoacidosis, T1DM, T2DM, gestational diabetes	
Route and Dose: inj, 100 units/mL, 3 mL, 5, Optisulin, Optisulin SoloStar, Semglee inj, 300 units/mL, 1.5 mL, 3, 5, Toujeo SoloStar[a] (Lantus discontinued - comes in 100 units)	
Interactions: pioglitazone	
Nursing Considerations (include drug reconstitution, dilution, compatibilities, administration times, etc, as needed): Insulin is held until fluid resuscitation is underway and **serum potassium is > 3.3mmol/L** Should not be mixed with other insulin, inject separately Short-acting and long-acting are not interchangeable/should not be used at the same time Constant and stable basal insulin level Starts to work several hours after injections and keeps working evenly for 24 hours Hospital protocols and policies must be followed for DKA management	

7. ***Evaluate outcomes***
   - *Did you meet your goals as set out?*
   - *Did your interventions improve the situation? How?*
8. ***Reflect and process***
   - *What worked well? What did not?*
   - *Was anything missed? What would you do differently*
   - *What is needed next?*
   - *How did you work together as a team?*

Christopher Robin - 4L O2 , salbutamol 13 puffs (1 to prime), oral prednisolone (liquid), 2 nurses to check and administer S4 medication

Christopher Robin is 7 years old. He presented to emergency by ambulance, brought from school where he was playing soccer when he developed an acute asthma exacerbation. He didn't have his puffers with him at school. He has had multiple admissions for his asthma including one admission to PICU. Weight is 25 kg. Regular Medications: Symbicort turbohaler 2 puffs BD; Salbutamol metered dose inhaler (MDI) with spacer 2 puffs every 4 hours PRN. Allergies: Environmental (Dust, Pollen, Mould).

In the acute area of ED he received Salbutamol 12 puffs by MDI and spacer every 20 mins for 1 hour, every 30 mins for 1 hours, then was stretched to every hour. He also received three doses of Ipratropium 500mcg and one dose of Prednisolone 25 mg orally. You are the nurse taking over his care on transfer to the emergency observation area, he is on high acuity monitoring awaiting admission to the paediatric unit. He is accompanied by his father, and his last dose of Salbutamol was 45 minutes ago.

Key Skills:

1. Communicate and offer appropriate person and family-centred care.
2. Undertake a primary survey with your team ABCDEFG, document in the nursing notes, including obtaining vital signs from the mannequin and document these onto the appropriate SAGO chart (10 min).
3. Plan and undertake necessary steps for escalation of a high acuity asthma presentation (10 min).
4. Practice safe administration of oxygen and salbutamol (10 min).
5. Practice safe administration of oral prednisolone (10 min).
6. Consider appropriate family education during the scenario (5 min).
7. Practice clinical handover with team use ISBAR (5 min).

Practice Preparation Case Scenario Data

Assessment at 1800hrs in emergency observation area (awaiting admission to the ward):

A: Strained voice speaking in short sentences
B: Insp & expiratory wheeze, intercostal chest recession and use of accessory muscles; RR 38bpm; O2 Sats 92% on room air
C: HR: 136bpm bounding, BP: 90/60 Cap refill =2sec
D: Fatigued but easily arousable + orientated. GCS 15 PEARL pupils 3mm R=L limb strength, moving all limbs
E: Abdomen soft, BS positive, dry lips, T37.0C
F: Has not voided since admission; tolerating sips of juice
G BSL 6.3mmol/L
Christopher's father is worried and has lots of questions. He asks you: "I thought Chris would grow out of his asthma, why does it seem to be getting worse?"

Current Orders:

Salbutamol 12 puffs via MDI and spacer 3 hourly, and 1 hourly PRN
Supply O2 to maintain SpO2 ≥ 94%

Diagnosis: Acute Exacerbation of Asthma

1. Consider the case scenario. *List relevant facts and context for the case scenario provided.*

Patient: Christopher Robin, 7-year-old male.
Situation: Presented to ED by ambulance - acute asthma exacerbation at school while playing soccer, didn't have puffers with him. Accompanied by father.
PMH: Multiple admissions for asthma, one admission to PICU.
Weight: 25kg
Regular meds:
Symbicort turbohaler 2 puffs BD
Salbutamol metered dose inhaler (MDI) with spacer 2 puffs every 4 hours PRN
Allergies: Environmental - dust, pollen, mould.
In ED:

- Received Salbutamol 12 puffs by MDI and spacer every 20 mins for 1 hour, every 30 mins for 1 hour, then stretched to every hour. Last dose 45 minutes ago.

- Received 3 doses of Ipratropium 500mcg.
- Received 1 dose of Prednisolone 25 mg PO.

Currently on high acuity monitoring at the emergency observation area (for t/f to paediatric unit).

Assessment @ 1800hrs:
Pt has significant respiratory distress. RR 38. SpO2 92% on RA. BP 90/60. Mildly tachycardic - HR 136, bounding pulse. Fatigued but easily rousable, orientated. GCS 15. PEARL, 3mm. R=L limb strength. Afebrile. Dry lips. Tolerating sips of juice, has not voided since admission. BSL 6.3mmol/L.
Diagnosis: Acute exacerbation of asthma.
Christopher's father is worried and has lots of questions.
"I thought Chris would grow out of his asthma, why does it seem to be getting worse?"
Plan:
Salbutamol 12 puffs via MDI and spacer 3 hourly, and 1 hourly PRN.
Supply O2 to maintain SpO2 ≥ 94%.

2. Collect cue/information. *Plan and practice a systematic A-G approach to assessment and include relevant data from the case scenario. Obtain the vital signs from the mannequin and document these onto the SAGO chart).*

	Look	*Listen*	*Feel*
Airway		Strained voice, speaking in short sentences.	
Breathing	Intercostal chest recession; use of accessory muscles. RR: 38bpm *(yellow zone)* O2: 92% on RA *(yellow zone)*	Inspiratory and expiratory wheeze.	
Circulation	BP: 90/60 Cap refill: 2 secs		HR: 136bpm, bounding *(blue zone)*
Disability	Fatigued, but easily rousable and orientated. GCS 15/15. PEARL, pupils 3mm. Moving all limbs.		R=L limb strength
Exposure	Dry lips T: 37.0C	Bowel sounds (BS) +ve.	Abdomen soft
Fluid	Has not voided since admission, tolerating sips of juice.		

Glucose	BSL: 6.3mmol/L		

*3. **Process the information**. Analyse and interpret data collected; discriminate important aspects of the data; relate clusters of cues; infer understandings of information; match situations to past and current understandings; and predict possible outcomes.*

What deviates from a normal assessment finding?

- Strained voice and speaking in short sentences - blocked airway as a result of bronchoconstriction
- Inspiratory & expiratory wheeze
- Intercostal chest recession
- Use of accessory muscles
- RR 38bpm
- SpO2: 92% on RA
- HR: 136bpm, bounding
- Fatigued
- Dry lips
- BP is on the low side, but still BTF.

What items can you group together?
Strained voice and speaking in short sentences, inspiratory and expiratory wheeze, intercostal chest recession, use of accessory muscles, RR 38bpm, SpO2 92% on RA, HR 136bpm and bounding pulse (to compensate for the lack of oxygen), fatigued, dry lips. Most of the patient's findings that are outside the normal range are all linked to one another and occurred as a result of his asthma exacerbation (inflammation and narrowing of airways causing SOB).

Low oral intake (sips of juice), not voiding since admission, BP on the low side, mild tachycardia, fatigue, dry lips.

What are the most important findings?

Signs of respiratory distress: increased respiratory rate and low oxygen saturation. Both are in the yellow zone and must be addressed immediately to prevent further deterioration and complications. Other signs include: strained voice, speaking in short sentences, inspiratory and expiratory wheeze, intercostal chest recession, use of accessory muscles, fatigue. Asthma management at home is important to prevent future acute exacerbations causing these symptoms.

Potential dehydration due to low oral intake, could be indicated by the patient not voiding, low BP, mild tachycardia, fatigue and dry lips. Dehydration, especially in children, may lead to shock if not treated immediately.

Review Salbutamol, Ipratropium and Prednisolone. How do they work to treat asthma (relate to the pathophysiology of asthma)? Are the dosages administered appropriate? What side effects can these medications have that you might find in your assessment?

Generic Drug Name: Salbutamol	*Trade/Brand Name:* Asmol, Ventolin, Zempreon, Salbutamol, Airomir Autohaler
Classification: Short-acting beta 2 agonist (SABA)	*Schedule:* Schedule 3
Action: Relax bronchial smooth muscle by stimulating beta 2 adrenoreceptors.	
Use/indication: Symptom relief of asthma and COPD. Prevention of exercise-induced bronchoconstriction.	
Route and Dose: Inhaled route is preferred and commonly used due to fewer systemic adverse effects and faster onset of action. Nebulisers are rarely used for asthma other than in emergencies. For acute asthma (under medical supervision), a pMDI must be used: 4-12 puffs (400-1200mcg) is recommended from children aged 6-18 years. Repeat every 20 minutes for the first hour, then every 1–4 hours according to response. The dosages administered in EG were appropriate.	
Interactions: <u>Beta-blockers + beta 2 agonists</u> Beta-blockers antagonise the therapeutic effects of beta2 agonists and may precipitate asthma; seek specialist advice if the combination is felt necessary as a selective beta-blocker may be suitable. <u>Theophylline + beta 2 agonists</u> Theophylline can potentiate hypokalaemia induced by high doses of beta 2 agonists; monitor patients with severe asthma closely for hypokalaemia.	
Nursing Considerations (include drug reconstitution, dilution, compatibilities, administration times, etc, as needed): ● Using a pMDI with spacer is preferred to nebuliser. ● Breath-activated inhalers are not suitable when inspiratory flow is inadequate (e.g. some children <8 years or during acute asthma). ● Side effects include: tremor, palpitations, headache, tachycardia, muscle cramps, agitation, hyperactivity in children, insomnia. ● Serious hypokalaemia may occur with high doses of beta 2 agonists; may be worsened by theophyllines, corticosteroids, diuretics and hypoxia. ● Patient education - ensure the pt has an asthma action plan, and knows what to do in an emergency and the importance of bringing puffers with them. Ensure the pt is educated about their condition, possible complications, and medications. ● High or increasing usage of SABAs indicates poorly controlled asthma and requires review of management.	

- Check inhaler technique and compliance regularly, especially when asthma control is poor.
- Bronchiolitis is the most common cause of wheeze in infants <1 year; do not use salbutamol (no demonstrated benefits and risk of adverse effects).

Generic Drug Name: Ipratropium	*Trade/Brand Name:* Aeron, Atrovent
Classification: Anticholinergic	*Schedule:* Schedule 4

Action:
Promote bronchodilation by inhibiting cholinergic bronchomotor tone. They block muscarinic actions of acetylcholine.

Use/indication:
Symptom relief of asthma and COPD.

Route and Dose:
For severe acute asthma: give every 20 minutes for 3 doses, with salbutamol.
>6 years, pMDI with spacer, 8 inhalations (168 micrograms).
>6 years, neb, 500 micrograms.
3 doses of ipratropium 500mcg were administered in ED, which was the appropriate dosage.

Interactions:

- Giving an anticholinergic drug with other drugs with anticholinergic effects will increase therapeutic effects and risk of adverse effects (including central anticholinergic delirium). Some examples are atropine, belladonna alkaloids, benzatropine, darifenacin, glycopyrronium, hyoscine butylbromide, hyoscine hydrobromide, orphenadrine, oxybutynin, propantheline, solifenacin, tolterodine and trihexyphenidyl. Avoid these combinations if possible. If a combination is required, monitor the person and reduce the dose of the anticholinergic if necessary.
- Anticholinergics may decrease sweating and cause hyperthermia, and risk increases if given with other drugs with this effect, e.g. topiramate, zonisamide.
- Combining anticholinergics with a drug that increases acetylcholine concentration (eg anticholinesterases, cisapride) is generally avoided due to possible antagonistic effects.
- These antagonistic or additive effects are less likely to occur with anticholinergics used topically, e.g. ipratropium, than those given systemically as their systemic adverse effects are fewer.

Nursing Considerations (include drug reconstitution, dilution, compatibilities, administration times, etc, as needed):

- Use a spacer with a pMDI.
- Dilute solution for nebulisation to 2–3 mL with sodium chloride 0.9%.
- Adverse effects include: headache, nausea, taste disturbance, dry mouth, throat irritation, blurred vision, dizziness, urinary retention, diarrhoea.
- Patient education: do not allow the powder or mist to come into contact with your eyes. If using a nebuliser, close your eyes or wear eye protection during nebulisation.

- Patient education: consult with your doctor if you notice any eye pain or discomfort, blurred vision or visual halos, or difficulty urinating.
- Rarely used in asthma except in severe acute attacks.
- Limited role in chronic asthma treatment but may be useful as a short-term substitute for salbutamol or terbutaline in those with tolerance to short-acting beta 2 agonists due to high usage.
- Before diagnostic spirometry, withhold ipratropium for 12 hours and LAMAs for 36 hours.

Generic Drug Name: Prednisolone	*Trade/Brand Name:* Panafcortelone, Predsolone, Predmix, Redipred, Solone
Classification: Corticosteroid	*Schedule:* Schedule 4

Action:
Corticosteroids regulate gene expression, which results in:

1. Glucocorticoid effects, such as gluconeogenesis, proteolysis, lipolysis, suppression of inflammation and immune responses.
2. Mineralocorticoid effects, such as hypertension, sodium + water retention, potassium loss.

Use/indication:
Used in pharmacological doses in a wide range of conditions for their anti-inflammatory and immunosuppressant effects. Used for autoimmune or inflammatory disease, acute asthma, COPD exacerbation, acute gout, croup.

Route and Dose:
1 month – 18 years, oral 1 mg/kg (maximum 50 mg) once daily for 3–5 days.
For Christopher, this would be 25mg once daily for 3-5 days. This means that the appropriate dosage (25mg PO) was administered in ED.

Interactions:
<u>Aspirin + corticosteroids</u>
Corticosteroids may decrease salicylate concentration when high-dose aspirin is used.
<u>Atazanavir/darunavir/elvitegravir + corticosteroids</u>
These medications, with cobicistat, may increase concentration of corticosteroids given by any route; this may suppress the hypothalamic-pituitary-adrenal axis (may result in adrenal suppression).
<u>Mifepristone + corticosteroids</u>
Mifepristone may reduce the activity of inhaled and systemic corticosteroids for 3–4 days after its use due to its antiglucocorticoid effects; avoid using mifepristone or consider temporarily increasing the corticosteroid dose and monitoring carefully.
<u>NSAIDs + corticosteroids</u>
Oral corticosteroids increase risk of gastric ulceration with NSAIDs.If an NSAID cannot be avoided, use the lowest effective dose for the shortest period of time.
<u>Phenytoin + corticosteroids</u>

Phenytoin increases metabolism of dexamethasone, fludrocortisone, methylprednisolone, prednisolone and prednisone, and may reduce their activity. Rifampicin + corticosteroids Rifampicin increases metabolism of cortisone, fludrocortisone, hydrocortisone, methylprednisolone, prednisone and prednisolone, and may reduce their activity. Ritonavir + corticosteroids Ritonavir may increase the concentration of corticosteroids given by any route. Cushing's syndrome developed after ritonavir was given with budesonide, dexamethasone (as eye drops), fluticasone or triamcinolone. Warfarin + corticosteroids Corticosteroids may increase warfarin's anticoagulant effect, increasing the risk of bleeding; monitor INR and decrease warfarin dose if necessary. Phenobarbital + prednisolone Phenobarbital increases prednisolone's metabolism; may reduce its activity; monitor clinical effect and increase prednisolone dose if necessary.
Nursing Considerations (include drug reconstitution, dilution, compatibilities, administration times, etc, as needed): ● Patient education: take oral prednisolone with food to help reduce stomach upset. ● Watch for signs of infection. ● Dosage may need to be reduced gradually when stopping treatment. ● Patient education: tell all doctors, surgeons and dentists treating you that you are taking corticosteroids (or have taken them in the past) because if you become ill or are going to have surgery, your dose of medicine may need to be increased. ● Measure blood glucose, electrolytes, weight, and BP at baseline, then monitor regularly during treatment.

4. Identify problems and issues*. Synthesize the information.*

What are your impressions? What are you most concerned about? Why?

Christopher's history of multiple admissions and one admission in PICU indicate poorly managed asthma. This, along with him forgetting to bring his puffers in school and his distressed father asking many questions suggest that the patient and family's health literacy is inadequate. The patient and his family must be educated regarding asthma management to prevent acute exacerbations and future hospitalisations. Over time, poorly controlled asthma can also cause permanent damage to the airways that cannot be reversed.

5. Establish goals.

What do you think needs to happen? In what order of priority?

1. Manage Christopher's acute asthma exacerbation in the hospital and prevent complications by controlling symptoms and comprehensively conducting assessments.
2. Ensure the patient is properly hydrated to avoid dehydration.

3. Prevent asthma exacerbations and future hospitalisations by enhancing the health literacy of the patient and his father, and formulating a plan with realistic goals in collaboration with them. Also, encourage them to utilise an asthma action plan. Emphasise the importance of proper asthma management.
4. Educate the patient regarding the importance of maintaining normal activity levels, including exercise, after discharge.
5. Educate the patient regarding the importance of maintaining pulmonary function as close to normal as possible after discharge.
    a. Avoiding secondhand smoke or environmental irritants.
    b. Eating foods rich in antioxidants.
    c. Getting vaccinations like the flu vaccine and pneumonia vaccine.
    d. Exercising more frequently, which can help your lungs function properly.
    e. Improving indoor air quality.
6. Provide reassurance and emotional support.

What outcomes would you like to avoid? What outcomes would you like to see?
What is your time frame?

I would like to prevent Christopher from experiencing future asthma exacerbations and hospitalisations. I would like to see him and his family have an improved health literacy to be able to properly manage the patient's asthma. There is no specific time frame for these goals as compliance with the collaboratively formulated plan must be consistent after discharge.

6. Take action.
Plan out the interventions you will practice in the lab.
What further information do you need? What guidelines/protocols/pathways are relevant?

- Conduct an A-G assessment and closely monitor vital signs.
- Administer oxygen and charted medications to control asthma symptoms.
- Provide appropriate and thorough family education (asthma pathophysiology, asthma management, medications, triggers, exercise, air quality, emergencies), and set goals in collaboration with the family.
- Emphasise the importance of an asthma management plan.
- Provide reassurance and emotional support.
- Contact the clinical team for review (regarding abnormal vital signs and other symptoms).
- Encourage oral intake, consider IV fluids if oral intake is not tolerated.
- Ensure appropriate person and family-centred care is provided.
- Document.
- ISBAR handover.

The Emergency Fellow comes to reassess Christopher based on your request for review. She asks you to give Christopher another dose of Prednisolone 25 mg orally now. She increases his Salbutamol 12 puffs PRN to 30 minutely, and advises you that you can give the Salbutamol using MDI and spacer or nebuliser, given that he is requiring oxygen. She says not to send him to the paediatric unit - his respiratory status needs to be stable with 1 hourly Salbutamol prior to transfer. She will recheck him in another 30 minutes, and will ring the ICU to assess if he doesn't improve. Given his clinical presentation, does this plan seem appropriate? Are these doses safe to give?

Another 25mg of oral prednisolone should not be given, as the maximum dose per day is one. Otherwise, the rest of the plan is appropriate considering the patient's clinical presentation and current condition.

ISBAR handover to clinical team:
I: This patient is Christopher Robin, a 7-year-old male.
S: He presented to ED with his father by ambulance due to acute asthma exacerbation at school while playing soccer, and didn't have his puffers with him.
B: He's had multiple admissions for asthma. He weighs 25kg. His regular meds are symbicort turbohaler 2 puffs BD and salbutamol MDI w/ spacer 2 puffs 4-hourly PRN. He was given salbutamol, prednisolone, and ipratropium in ED. He's currently charted for 12 puffs of salbutamol via MDI w/ spacer 3-hourly, and hourly PRN. Allergic to dust, pollen, and mould.
A: His symptoms still haven't eased. He currently has tachypnea and mild tachycardia. His O2 is 92% on RA (or >94% on 2L NP?). He has significant respiratory distress, inspiratory and expiratory wheeze, intercostal chest recession, use of accessory muscles, fatigue, and is speaking in short sentences.
R: I'd like you to review him immediately please.

7. Evaluate outcomes.
Did you meet your goals as set out?
Did your interventions improve the situation? How?

8. Reflect and process.
What worked well? What did not?
Was anything missed? What would you do differently?
What is needed next?
How did you work together as a team?

Leigh Davis - requires Oxygen therapy and antibiotics - will require catheter in (to take out urine to see if infection is getting better leukocytes)
Mrs Leigh Davis is a 74-year-old woman who has presented to emergency with fever, dysuria and mild confusion and difficulty attending to ADLs. Mrs Davis normally lives independently at home with her husband. She is accompanied by her husband who is worried that Mrs Davis appears much more unwell. Mrs Davis nor her husband speak English particularly well, and both appear very anxious. Health History: osteoarthritis. Regular Medications: Naproxen Sodium 275mg orally twice daily. No allergies.
Key Skills

1. Communicate and offer appropriate support to patient and family (throughout)
2. Undertake a primary survey with your team ABCDEFG, document in the nursing notes. Obtain the vital signs from the mannequin and document these onto the SAGO chart (5mins)
3. Oxygen delivery to keep O2 Sats >95%, using most appropriate equipment (5mins)
4. Commence administration of 0.9% NaCl Bolus (10mins)
5. Administer two IV antibiotics: ampicillin and gentamicin(15mins)
6. Insert IDC and collect a urine sample for culture (10 min)
7. Documentation, clinical handover & effective communication with team (5mins)

Practice Preparation Case Scenario Data
Assessment
You assess Mrs. Davis and find she has become drowsy, pale and cool to touch. It is difficult to understand her and when you ask her questions, both she and Mr. Davis agree with you, even when you

carefully avoid yes/no questions, so you are not sure what they understand. RR 28 bpm, Sp02 93% RA, chest symmetry equal and lung sounds clear on auscultation, HR 122 bpm, sinus rhythm, BP 88/52 mmHg. Her weight is 50 kg and she is GCS 14. She is diaphoretic and peripherally cool, with capillary refill=3 sec. She has an IVC in situ to right forearm, T 38.6C. Her tongue and mucous membranes are dry. During your assessment Mrs Davis' daughter arrives and becomes very upset and says to you: “I’ve never seen mum like this, she is usually out dancing and playing cards with the neighbours. Please do something!”

Diagnostics

Culture collected: blood, urine
Bloods FBC, EUC, CRP, LFTs, coags done
Significant results: WBC 14.8x10cells/µl; Lactate 3mmol/Ls; CRP 12.9 mg/dL
BSL 4.4mmol/Ls
Midstream Urinalysis: appears dark yellow, cloudy. Blood - neg; bilirubin - neg; urobilinogen - neg; nitrite - positive; leucocytes - moderate; protein - neg; ketones - neg; glucose - neg; pH - 6.0; and specific gravity - 1.020.

Diagnosis: Urinary sepsis

Student Preparation

Application: Clinical Reasoning Process

Levett-Jones, T., Hoffman, K., Dempsey, J., Jeong, S. Y.-S., Noble, D., Norton, C. A., … Hickey, N. (2010). The ‘five rights’ of clinical reasoning: An educational model to enhance nursing students’ ability to identify and manage clinically ‘at risk’ patients. *Nurse Education Today,* 30(6), 515–520. https://doi.org/10.1016/j.nedt.2009.10.020

Crisp, J. & Douglas, C. (2017). Developing clinical reasoning for nursing practice. In J. Crisp, C. Douglas, G. Rebeiro and D. Waters (Eds). Potter and Perry’s fundamentals of nursing (5e, Australian version. ed.). Chatswood, NSW: Elsevier Australia. (see Chapter 4)

1. **Consider the case scenario**

List relevant facts and context for the case scenario provided.

Triage- Pt present with fever, dysuria, mild confusion, patient doesn’t have any history of cognitive impairment, moreover, confusion can be associated with signs of infection.
Dysuria discomfort when urinating – can be associated with bladder infection
Physical assessment – Sat is out of normal range 93%RA
Pt presents with – drowsiness, pale, cold to touch
Pt vital signs were out between the flag’s normal values, due to her other symptoms we can think of in sepsis.
BP is low (can be associated with signs of sepsis)

2. **Collect cue/information**
    - Plan and practice a systematic A-G approach to assessment and include relevant data from the case scenario. Obtain the vital signs from the mannequin and document these onto the SAGO chart

Patient findings:

	Look	Listen	Feel

A	No signs of obstructions	Normal sounds	Normal airway entrance
B	Resp rate 28bpm, Spo2-93%	lung sounds clear on auscultation	Chest symmetry equal.
C	HR 122 bpm, BP 88/52 mmHg. diaphoretic		sinus rhythm, peripherally cool, with capillary refill = 3 seconds
D	GCS 14 Drowsy Difficulty attending to ADLs Mild confusion		Temperature 38.6C
E	Her tongue and mucous membranes are dry. Diaphoretic		Diaphoretic Pale peripherally cool,
F	IVC R) forearm		
G	BSL 4.4mmol/Ls		

3. **Process the information**. Analyse and interpret data collected; discriminate important aspects of the data; relate clusters of cues; infer understandings of information; match situations to past and current understandings; and predict possible outcomes.

   - What data deviates from a normal assessment finding?

   Increase of breathing RR 28 and decrease in SpO2 (93% on RA)
   Heart rate 122 bpm
   Low BP 88/52 mmHg
   High temperature (febrile 38.6C)
   Diaphoretic
   Dry mucous and membrane
   Confusion
   Pale and cool to touch
   GCS 14
   Dysuria - patient feeling stinging, burning or tingling pain in the urethra when urinating
   Leukocytes - moderate sign of infection
   WBC - 14.8x10 cells/µl (increased WBC = indicating an infection)
   The colour of urine is dark, yellow and looks cloudy
   Lactate levels 3mmol/L (increased levels indicate less blood and oxygen flow in the body)
   CRP 12.9mg/dL (CRP >10 is an indication of infection or inflammation)
   Nitrite positive (indicting bacterial infection present in the urinary tract)

   - What items can you group together?

Pt vitas signal out of range – increase resp rate, increase heart rate, fever, decrease saturation, decrease blood pressure. Out of normal range vital signs can provide warning flags about the patient's conditions and deterioration.

Urinalyses (leukocytes positive – suggest urine tract infection, Nitrite positive suggest presence of gram -positive or negative bacteria and FBC suggests presence of infection because the WBC are elevated, CRP (C-reactive protein is elevated) and Lactate if elevated suggesting sepsis .

- What are the most important findings?

Patient physical assessment showing deterioration of vital signs and pathology results - the blood results indicate bacteria has entered the bloodstream which can lead to septic shock (life threatening) if not treated immediately
Blood tests and urine tests indicate infection
Vital signs also indicate infection

4. **Identify problems and issues**. Synthesize the information.
   - What are your impressions? What are you most concerned about? Why?

Fast deterioration of patient vital signs including the drop of the blood pressure, and Sat levels, and confusion.
Patient requires oxygen - her SpO2 is dropping dramatically
Patient requires hydration fluids (drinking water) - lost from diaphoresis
Immediate medical attention to address the infection as it can lead to septic shock which is fatal

5. ***Establish goals.***
   - What do you think needs to happen? In what order of priority?

   Starts sepsis pathway and guidelines - being able to recognise the signs and symptoms of sepsis immediately
   Start resuscitation fluids
   Start oxygen therapy
   Broad spectrum antibiotics therapy
   Insertion of IDC
   Increase monitoring
   Documentation

   - What outcomes would you like to avoid? What outcomes would you like to see?

   Pt deterioration
   Respiratory arrest
   Dehydration
   Cardiac arrest
   Death
   Outcome : vital signs returning to normal range, decrease of confusion state, pathology test results getting back to normal.
   Spread of UTI to the bloodstream causing septic shock
   Reducing the pain of voiding (the burning and pain sensation)

   - What is your time frame for your goals?

Vitals signs - immediately after IV fluids starts
It may generally take three to ten days to recover from sepsis if it is treated properly

6. ***Take action.***
   - Plan out the interventions you will practice in lab.
     A - G assessment
   - Physical assessment
   - Oxygen therapy
   - IV fluids
   - Meds
   - Contact dr - inform clinician
   - Keep monitoring
   - Documentation
   - ISBAR
   - Give antibiotics
   - Take tactact
   - Give her NaCl bolus to keep he hydrated
   - Patient education
   - Seek assistance from snerious staff members/clinicians if patient has further signs of deterioration and if required further escalation

   - What further information do you need? What guidelines/protocols/pathways are relevant?

- IDC insertion
- Sepsis pathway-RECOGNISE risk factors, signs and symptoms of sepsis RESUSCITATE with rapid intravenous fluids and antibiotics within the first hour of recognition of sepsis REFER to senior clinicians and specialty teams including retrieval as required
  Patients at greatest risk include those with:
  • Any kind of infection-bacterial, viral, parasitic, or fungal-anywhere in the body
  • Pre-existing (chronic) medical conditions
  • Underactive immune system
  • Surgery
  • Invasive procedures or IV lines.
  When a patient is suspected of having sepsis, the medical team must immediately undertake six key actions in discussion with a senior doctor:
  1. Administer high flow oxygen to improve oxygen delivery to tissues
  2. Take TWO blood cultures and other necessary specimens
  3. Measure serum lactate - elevated levels are directly linked to increased mortality
  4. Give appropriate IV antibiotics within 60 minutes. Every additional hour's delay results in mortality increasing by 7.6%
  5. Give adequate IV fluid resuscitation within 60 minutes to reduce organ dysfunction and multi-organ failure
  6. Monitor urine output and vital signs after each fluid challenge and continue to re-assess
- Resuscitation fluids protocols
- Keep monitoring using BTF guidelines
- Antibiotics administration
  Follow the CEC sepsis kills program and the local hospital guidelines and protocols in treating urosepsis

- Is Oxygen needed? How will you administer it?

Yes, Administer high flow oxygen to improve oxygen delivery to tissues .
Using High flow nasal prongs therapy (HFNP)

- Do you need to call for help? If so, what would you say - use ISBAR.

Yes , I will need to call for a rapid response because her blood pressure is in the red zone, and the RR and Temp are in the Yellow zone .

ISBAR :
I- Mrs Davis 74 yo, admitted to ED today.
S- Mrs Davis presents with fever, dysuria and mild confusion,tachycardia, tachypneic and BP low
B- she has a history of Osteoarthritis
A- She is drowsy, pale and cold to touch, tachypneic RR 28,Saturation 93% in Ra, Tachycardic HR 122, BP 88/52, capillary refill = 3 seconds , Temp 38, GCS 14 and she is very confused, her tongue and mucus is dry .
R- I need a rapid response please as her condition is deteriorating.

- What fluids are needed and why?

Patients with early sepsis are frequently hypovolemic from decreased intake and increased insensible losses. In addition, inflammation alters vascular resistance, venous capacitance, and vascular leak generating a “relative hypovolemia”. Resultant decreases in stroke volume and cardiac output imbalance oxygen delivery and demand, precipitating tissue hypoxia, anaerobic metabolism, and lactic acidosis.

The rationale for fluid resuscitation in sepsis is to restore intravascular volume, cardiac output, and oxygen delivery

- What medications do you expect to administer? Look up each medication and be ready for administration. The Australian Injectable Drugs Handbook and MIMS are available via the university library website. Prior to lab go through how to reconstitute and administer specific medication (including appropriate concentrations and rates for IV medications), and the rights of medication administration. Consider contraindications, drug interactions and side effects, as well as appropriate patient education.

Generic Drug Name:	Trade/Brand Name:
Penicillin antibiotic	AMPICYN , AUSTRAPEN , IBIMYCIN

Classification: Penicillin antibiotic	Schedule:no
Action: Bactericidal; interfere with bacterial cell wall peptidoglycan synthesis by binding to penicillin-binding proteins, eventually leading to cell lysis and death.	
Use/indication: Exacerbation of chronic bronchitis, community-acquired pneumonia Gonococcal infection, UTI Endocarditis prophylaxis in high-risk patients Acute cholecystitis, peritonitis, epididymo-orchitis, acute pyelonephritis, acute prostatitis	
Route and Dose: **Adult** *IM/IV*, 500 mg – 1 g every 4–6 hours. Use 200 mg/kg daily in divided doses every 4–6 hours in meningitis or septicaemia. Maximum 14 g daily.	
Interactions: Allopurinol	
Nursing Considerations (include drug reconstitution, dilution, compatibilities, administration times, etc, as needed): For IV use : reconstitute the vial with 10–20 mL of water for injections.	

If a part-dose is required reconstitute the 500 mg vial with 4.7 mL or the 1 g vial with 9.3 mL of water for injections to make a concentration of 100 mg/mL.1 Powder volume: 500 mg – 0.3 mL, 1 g – 0.7 mL1 **IV infusion :** Dilute the dose to a convenient volume with a compatible fluid (e.g. 50–100 mL) and infuse over 30 to 40 minutes.[1] Fluids : Ringer's1,2 , sodium chloride 0.9%1,2, glucose 5% (by Y-site only)1

Generic Drug Name: **Aminoglycosides**	Trade/Brand Name: Gentamicin
Classification: Antibiotic	Schedule:0
Action: Inhibit protein synthesis by irreversibly binding to the 30S ribosomal subunit and causing cell membrane damage. Concentration-dependent bactericidal effect.	
Use/indication: Empirical treatment for <48 hours of serious Gram-negative infections Serious systemic enterococcal infections (with beta-lactams or vancomycin) Serious infections due to susceptible organisms that are resistant to other antibacterials Surgical prophylaxis *P. aeruginosa* infections	

Brucellosis Eye infections, see Gentamicin (eye)
Route and Dose: **IV infusion :** Dilute the dose in 50–100 mL of a compatible fluid and infuse over 30 minutes.[1] Check your local guidelines.
Interactions: magnesium sulfate + aminoglycosides nondepolarizing neuromuscular blockers + aminoglycosides suxamethonium + aminoglycosides
Nursing Considerations (include drug reconstitution, dilution, compatibilities, administration times, etc, as needed): **Fluids :** Glucose 5%[1,4] , glucose 10%[4] , Hartmann's[4] , mannitol 20%[4] , Plasma-Lyte 148 via Y-site[10] , Ringer's[4] , sodium chloride 0.9%[1,4]