

AFRM Adult Rehabilitation Fellowship Example Modified Essay Questions

The Example Modified Essay Questions (MEQs) were produced by the AFRM Faculty Assessment Committee for AFRM Adult Rehabilitation trainees.

The Example MEQs present a Rehabilitation Medicine scenario and related questions. They are provided to give candidates an understanding of the modified essay question structure and to illustrate some of the formats used in the examination.

The example solutions for each question are provided to give an example of the type of response required for a modified essay question.

Candidates may also use the Example MEQs as a training tool when preparing for the MEQ paper of the AFRM Fellowship Written Examination (Adult Rehabilitation).

Important Note: These are Example Modified Essay Questions only and are not the same questions that will appear in the examination. The example questions do not cover all topic areas and do not cover all formats for the modified essay question.

AFRM Adult Fellowship Example Modified Essay Questions – Suggested answers

QUESTION 1

Mr XY is an 84-year-old right hand dominant man who sustained a left middle cerebral artery territory ischaemic stroke 7 days ago. He has been transferred from the general medical ward to the geriatric rehabilitation unit in which you are a Rehabilitation Physician.

His past medical history includes hyperlipidaemia, hypertension and paroxysmal atrial fibrillation. Prior to the stroke, he lived alone in a unit, accessible via 10 steps. His wife died 1 year ago and he has a 62-year-old son who lives locally, and who is very supportive. Mr XY was previously independent in all activities of daily living and drove a car.

On examination, he has flaccid right hemiparesis and moderate expressive and receptive dysphasia. You also note that he has a grade three infected sacral pressure area. As part of a discussion regarding the management of the ulcer, your registrar asks you about different ulcer dressing categories, how they work, and when they are used.

Question A

In the table below, outline the mechanism of action and one indication for the four dressing categories.

Dressing category	Mechanism of action	Indication
Hydrocolloid dressing (e.g. Comfeel™)	Hydrophilic particles absorb moisture convert to gel autolytic debridement	- Low to moderate exudate - Superficial wound - Skin protection
Foam dressing (e.g. Allevyn)	Absorb exudate into air spaces of dressing by siphoning	- Moderate-high exudative wound - Secondary dressing - Over granulation - Skin protection
Antimicrobial dressing (e.g. Inadine™)	Slow release of antimicrobial medication Reduce microbial load	- Infected/colonised wounds - Superficial wounds - Odour reduction
Negative pressure wound therapy (e.g. Vac dressing)	Negative pressure Non-compressive mechanical forces to tissue Facilitates increased blood flow, removal of exudate, healing by macrostrain/microstrain	- Exudate management - Promotes healing and granulation - Reduces oedema

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Question B

List four (4) modifiable risk factors for stroke which have a relative risk of 2 or greater.

- Hypertension 8
- Non-valvular atrial fibrillation 2.5–4.5
- Diabetes 1.8–6
- Low HDL < 35 mg/dL
- Asymptomatic carotid stenosis 2
- Physical inactivity 2.7

Question C

List four (4) non-modifiable risk factors for stroke.

- Age > 55
- Male sex
- Family history of stroke
- Race
- Genetics
- Low birth weight
- Previous stroke
- Previous TIA

It is now 10 days after Mr XY's stroke. During case conference, the physiotherapist reports that Mr XY has right shoulder pain.

Question D

List six (6) behavioural or physiological changes which would be consistent with Mr XY experiencing shoulder pain.

Physiological change Raised HR
 Raised RR
 Diaphoresis
 Pupil dilation

Behavioural

- Facial expressions: frowning, grimacing, distorted expression, rapid blinking
- Verbalisations/vocalisations: sighing, moaning, calling out, asking for help, verbal abuse
- Body movements: rigid, tense, guarding, fidgeting, increased pacing/rocking/mobility changes such as inactivity or motor restlessness
- Changes in interpersonal interactions: aggressive, resisting care, disruptive, withdrawn
- Changes in physiological patterns: appetite change, sleep change
- Mental status change: crying, increased confusion, irritability, distress

AFRM Adult Fellowship Example Modified Essay Questions – Suggested answers

Subluxation is an important cause of post-stroke shoulder pain.

Question E

Briefly describe the cause of shoulder subluxation in the early post-stroke period.

- Flaccid supraspinatus/deltoid/rotator cuff
- Unopposed downward pull of the humerus
- Stretching of superior shoulder capsule

Question F

Outline three (3) evidence-based prevention strategies for post-stroke shoulder subluxation.

- Functional electrical stimulation (to supraspinatus/deltoid)
- Support during transfers e.g. sling
- Support when seated e.g. pillow/wheelchair attachment
- Education and training of patient re handling/positioning (“education” not acceptable)
- Education/training of carer/staff re handling/positioning (“education” not acceptable)
- Gentle range of motion exercise to maintain ROM

Strapping/ultrasound not accepted – no evidence

Question G

Other than subluxation, list four (4) important differential diagnoses you should consider to explain Mr XY’s shoulder pain.

- Soft tissue injury
- Injury due to fall (during stroke?, or with a seizure? handling in acute period?)
- Rotator cuff tendinopathy/biceps tendinopathy/bursitis/subacromial bursitis/subdeltoid bursitis (exacerbated by reduced ROM/spasticity/weakness/muscle imbalance)
- Adhesive capsulitis
- Peripheral nerve entrapment
- Complex regional pain syndrome
- Spasticity
- Pre-existing shoulder pathology e.g. myofascial pain/arthritis/arthropathy/rotator cuff pathology/tendinopathy
- Central post-stroke pain

Not acceptable responses include:

- *Abnormal scapula-humeral rhythm (does not cause pain)*
- *Heterotropic ossification (too early)*

AFRM Adult Fellowship Example Modified Essay Questions – Suggested answers

Seven weeks have now elapsed since the stroke. Mr XY has made some functional gains, but his function has now plateaued.

When walking, he requires constant assistance of one person. He needs prompting to understand instructions, and conversations about his basic daily needs 25% of the time, and the person giving instructions needs to speak more slowly, and repeat themselves. Mr XY can express his basic daily needs 75% of the time without prompting. He enjoys social situations such as meal time in the ward's dining room. He needs a helper due to his reduced attention, and ability to follow verbal and non-verbal cues. He interacts appropriately with other patients and staff about 70% of the time. He receives assistance to solve problems related to his basic daily needs 50% of the time. He also receives prompting with recognising and remembering his daily activities for one out of every three interactions.

Question H

Based on the information given, give Mr XY's scores for the five cognitive domains of the Functional Independence Measure (FIM™).

Comprehension = 4

Mr XY comprehends basic information 75%–90% of the time without prompting. He receives prompting by slowing speech rate and repetition 25% of the time.

Expression = 4

Minimal prompting. Mr XY expresses his basic daily needs 75%–90% of the time without prompting.

Social interaction = 3

Moderate direction. Interacts appropriately 50%–75% of the time without prompting.

Problem solving = 3

Moderate direction. Solves basic problems 50%–75% of the time without prompting.

Memory = 3

Moderate direction. Patient can perform memory tasks 50%–74% of task without prompting.

Note: For a correct answer only the score is required, the descriptions are not needed when answering the question.

Mr XY's discharge plans are discussed during case conference, and it is felt that he will require high-level care (nursing home placement) upon discharge. The Social Worker mentions that his son has Enduring Power of Attorney and that an Advance Care Directive is in place.

Question I

Briefly describe the purpose of an Advance Care Directive (also known as Advance Directive or Advance Health Directive).

- Written statement
- Made by person who has capacity
- Made by a person over 18
- Regarding their wishes for their future health care/medical/surgical/dental
- *(note: variation of specifics dependent on jurisdiction)*
- Comes into place when the person cannot make decisions for themselves e.g. due to illness/injury

AFRM Adult Fellowship Example Modified Essay Questions – Suggested answers

Question J

List three (3) requirements for decision-making capacity.

- understand the nature and effect of a decision
- freely and voluntarily make those decisions; and
- communicate the decisions in some way.

AFRM Adult Fellowship Example Modified Essay Questions – Suggested answers

QUESTION 2

Mr MC is an 86-year-old community dwelling man with a background history of peripheral vascular disease, hypertension, osteoarthritis, ischaemic heart disease and type two diabetes mellitus. He stopped smoking 10 years ago, and previously smoked one packet of cigarettes each day for 30 years.

Mr MC has a non-healing ischaemic ulcer of his left great toe. Despite optimal non-operative management in the Vascular Medicine ward, the ulcer does not heal, and a surgical consultation is sought. The surgeon suggests that the area is non-salvageable and requires amputation.

You are a Rehabilitation Physician in a metropolitan hospital, and the surgeon seeks your input regarding the potential surgical level of amputation.

Question A

List three (3) advantages and three (3) disadvantages of transmetatarsal amputation compared to transtibial amputation for this man.

Advantages:

- Shorter operative duration
- Psychological benefit to patient of having his own leg (though QOL studies comparable).
- Allows standing transfers without orthosis/prosthesis and ambulation
- Lower cost of prosthesis
- Less cost for rehabilitation/training
- May allow early discharge from hospital
- Energy expenditure comparable in the 2 amputations

Disadvantages:

- Poor and delayed wound healing in 50%
- Prolonged length of stay/greater cost of care in hospital and community
- Higher morbidity/sepsis
- Likelihood for further amputation procedure – Repeat ipsilateral amputation procedures in 1/3 of patients
- Possibility of inadequate transverse and longitudinal arch of foot/difficulty with prosthetic fitting long term
- Ongoing pain from ischaemic wound, deformed foot arch.

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Mr MC subsequently undergoes a left transtibial amputation. The post-operative period is complicated by development of atrial fibrillation, for which he commenced on a therapeutic dose of enoxaparin. He is subsequently admitted under your care for inpatient rehabilitation.

A week later after admission to inpatient rehabilitation, the physiotherapist reports that Mr MC has significant pain, which is interfering with his participation in therapy. He has pain in the left leg, both localised pain at the stump, and phantom pain in the amputated limb.

Question B

List six (6) important differential diagnoses of the stump pain.

Vascular:

- Post-operative wound pain
- Ischaemic pain/vascular claudication/vascular insufficiency
- Deep vein thrombosis
- Stump haematoma
- Wound dehiscence

Infective:

- Operative wound infection
- Cellulitis
- Septic arthritis

Musculoskeletal:

- Contracture
- Back pain with somatic referred pain
- Hip arthritis
- Knee arthritis
- Fracture
- Soft tissue injury/ligament/meniscal injury

Neurogenic:

- Referred spinal pain e.g. canal stenosis/foraminal narrowing/radiculopathy
- Peripheral neuropathy (diabetes)

No marks for

- *Neuroma (too early)*
- *Spur (too early)*

The medical student attached to your ward asks you why Mr MC is developing phantom limb pain.

Question C

Outline the two (2) most widely accepted mechanisms of phantom limb pain.

- central pain/spinal cord sensitisation/wind up phenomenon/cortical reorganisation/central sensitisation
- peripheral deafferentation pain

AFRM Adult Fellowship Example Modified Essay Questions – Suggested answers

Mr MC's pain is interfering with his progression in rehabilitation. You discuss with your team various approaches for managing his pain.

Question D

List six (6) pharmacological categories which have an evidence base for treating phantom limb pain.

- Simple analgesic/paracetamol
- NSAID
- Tricyclic antidepressant
- Tetracyclic antidepressant (mirtazapine)
- Calcium channel blocker
- Anti-epileptic/anticonvulsant
- Serotonin noradrenergic reuptake inhibitor
- Selective serotonin reuptake inhibitor
- Synthetic opiate like analgesic/atypical opiate/tramadol
- Sodium channel blocker/anti-arrhythmic
- Alpha 2 agonist/clonidine
- Polypeptide hormone/calcitonin
- NMDA antagonist
- Opioids/opiate
- Benzodiazepine
- Capsaicin
- Beta blocker

No marks for giving specific examples within a category

Question E

List six (6) evidence-based non-pharmacological management options for treating phantom limb pain.

First two points are treatments with level 2 or greater evidence:

- Mirror box therapy
- Mental imagery/virtual imagery/virtual reality training/graded motor imagery
- Manual therapy/massage of stump/shrinker/strapping
- Heat/cold treatments
- Physiotherapy – weight bearing
- Prosthesis wearing and training
- Return to work
- CBT
- Biofeedback – visual, temperature, electro myographic feedback
- Sensory discrimination training
- Hypnosis
- Relaxation techniques
- Mindfulness
- TENS
- Farabloc socks
- Spinal cord stimulator
- Deep brain stimulation
- Anterior cingulotomy
- Motor cortex stimulation
- Transcranial magnetic stimulation

AFRM Adult Fellowship Example Modified Essay Questions – Suggested answers

Mr MC has been commenced on anticoagulant therapy with warfarin for newly diagnosed atrial fibrillation.

Question F

List six (6) topics that should be covered during warfarin education.

- Indication
- Action of warfarin
- Duration – lifelong
- Brands of warfarin/don't swap
- Pill strength/colour
- Monitoring – how/frequency
- Dose modification
- When to take
- Missed dose
- Diet
- Drug interactions
- What to do if bleeding
- Warfarin booklet
- Where to ask questions

The pharmacist asks whether you have considered changing him to one of the newer oral anticoagulants which have been “approved” for the prevention of stroke in non-valvular atrial fibrillation.

Question G

Complete the table below, comparing properties of warfarin and rivaroxaban.

Property	Warfarin	Rivaroxaban
Mechanism of action	Reduced synthesis of factor II, VII, IX, X	Direct competitive reversible inhibition of activated factor X
Onset of action	36–72 hrs	Within 30 mins. T max 2.5–4 hours
Antidote	Immediate reversal with plasma or factor concentrate. Reversal within hours with Vitamin K	None available

AFRM Adult Fellowship Example Modified Essay Questions – Suggested answers

QUESTION 3

Miss AK is a 27-year-old lady with a past history of bipolar disorder and intravenous opiate drug use. She was previously on a methadone program, but is not currently.

Ten days ago, Miss AK was involved in a single vehicle car accident in which her car impacted with a tree. She sustained a fracture of the shaft of the right femur, which was internally fixed with a rod and screws; and a fractured left ankle that was placed in a fibreglass cast. She is to be reviewed by the orthopaedic surgeon in 6 weeks and is to remain non-weight bearing on both legs until that time. In the acute hospital, she developed an above knee deep vein thrombosis and was placed on full-dose therapeutic enoxaparin twice daily. She remains on this now, but warfarin will be commenced in the near future.

Her current medications are as follows:

Enoxaparin 80 mg twice daily

Fluoxetine 40 mg daily

Lithium carbonate 500 mg daily

Diclofenac 50 mg three times daily

Oxycodone 5–10 mg when needed every 3 hours

Paracetamol (500 mg) and codeine phosphate (30 mg) combination – 1–2 tablets when needed, up to four times a day

Tramadol 50–100 mg when needed, every 4 hours

Miss AK is transferred to your general rehabilitation ward on Friday morning. The goal is to eventually discharge her to home using a wheelchair. On admission, Miss AK is noted to be agitated. She is still orientated, but the nurses are concerned.

Question A

Other than infection, list eight (8) specific differential diagnoses you should consider which could explain her agitation.

- Mental health issues/psychological distress post-accident/PTSD features/panic attacks/anxiety
- Illicit drug taking
- Pain/poor pain control
- Withdrawal effects
- Possible head injury
- Delirium secondary to pulmonary embolism
- Delirium secondary to fat embolism
- Serotonin syndrome
- Narcotised
- Polypharmacy
- Renal impairment – lithium and NSAID
- Electrolyte imbalance
- Lithium toxicity
- Adverse drug reaction

AFRM Adult Fellowship Example Modified Essay Questions – Suggested answers

On the Friday afternoon, Miss AK requests weekend leave.

Question B

List ten (10) specific factors you should take into account when considering your response to this request.

Reasons for request

- Why does she want leave? E.g. funeral
- Was the car accident a suicide attempt/suicide risk/current mood?
- Assess risk of absconding

Risks while on leave

- Assess risk taking behaviour while on leave/risk of IV drug use with enoxaparin injections (past illicit drug use)
- Falls
- Parent/family supervision for safety
- Compliance with weight bearing restrictions

Medications

- Capacity of pharmacy to dispense weekend leave medications
- Medication administration while on leave
- Capacity to self-inject enoxaparin
- Adequacy of pain management

Environment/equipment

- Access to accommodation and bathroom/need for OT home visit
- Need for equipment/availability of equipment at short notice
- Wheelchair prescription

Function

- Sitting tolerance
- Transport to and from leave/car transfers
- Wheelchair transfers wheelchair to bed, wheelchair to chair etc
- Wheelchair use
- Assess personal ADL function/toileting/showering
- Need for cognitive assessment
- Need to assess bladder and bowel function

Other

- Wounds/dressings
- Leave should be directed by rehabilitation goals
- Full review by team and discussion re risks/safety concerns

AFRM Adult Fellowship Example Modified Essay Questions – Suggested answers

Miss AK remains on the rehabilitation unit over the weekend. On Monday morning, the nursing staff report that over the weekend Miss AK requested additional pain medication every 2 hours.

Question C

List six (6) specific non-pharmacological approaches for the management of Miss AK's pain by the rehabilitation team.

Establish cause of pain

- Review cast
- X-ray fractures/early orthopaedics review
- Review wound
- Review extent of DVT
- Other reasonable alternative aetiology for increased pain

Additional consultations

- Enlist assistance from pain specialist/pain services
- Enlist assistance from Drug and Alcohol Services

Psychological approaches

- Use distraction techniques
- Cognitive/behavioural therapy
- Teach relaxation techniques

Physical approaches

- Thermal therapy – hot packs (not an option in all hospitals)/cold packs
- TENS

Other

- Obtain additional information about past pain management e.g. talk to GP
- Drug contract
- Individual goal setting
- Family meeting/patient meeting to discuss pain management
- Monitor pain severity with objective pain scale
- Case manager/contact person to improve liaison with team
- Patient education re pain mx approach

AFRM Adult Fellowship Example Modified Essay Questions – Suggested answers

Four of Miss AK's friends visit her on the ward. After the visit, staff members note that she appears drowsy. There is no proof that she has taken any illicit drugs, but staff are concerned.

Question D

List six (6) strategies that can be used to minimise potential illicit drug use on the ward by a patient with a history of illicit drug use.

- Room near nurses' station
- Shared room
- Encourage visitors to meet in common areas
- Limit number of visitors
- Enforce visiting hours
- Monitor leave from ward
- Nurse special
- Same nurse rostered on to Miss AK each day
- Hourly nursing rounding
- Monitor during enoxaparin/dispose of needles correctly
- All pain medication taken in front of a nurse
- Optimise pain management
- Opiate substitution/methadone
- Urine tests with patient's consent
- Talk to patient re expectations/behavioural contract/drug contract
- Assign patient liaison/contact/Case Coordinator
- Drug and Alcohol Team involvement
- Psychologist involvement/cognitive/behavioural therapy
- Alert security

AFRM Adult Fellowship Example Modified Essay Questions – Suggested answers

Miss AK notes a large lump on the lateral aspect of her right thigh. An ultrasound confirms it is a non-loculated haematoma of 400 millilitres volume. There are no signs of infection.

Question E

List six (6) points you will discuss with the patient regarding this haematoma and its management.

Drainage

- Amenable to drainage/refer to surgeon/refer for ultrasound guided drainage
- Risk of re-accumulation if drained (on enoxaparin)
- Infection is a complication of drainage

Complications

- Team will monitor for signs of infection/monitor inflammatory markers
- Increase size/monitor circumference/serial ultrasound
- Avoid strenuous exercise
- Anaemia if increases in size/monitor Hb
- Falls prevention
- Avoid additional trauma to area e.g. padding of wheelchair etc

Prognosis

- Natural history – body will reabsorb the haematoma
- Good prognosis
- May leave a lump permanently

Non-surgical management

- Bike shorts or compression pants may limit symptoms
- Massage to organised haematoma
- Apply Hirudoid cream/arnica
- No treatment necessary

Assess and treat contributing causes

- Cease diclofenac
- Coagulation screen
- Review dose of anticoagulant
- Review need for anticoagulation
- Haematologist review
- Check anti-factor Xa level (heparin assay)
- Monitor platelet count

AFRM Adult Fellowship Example Modified Essay Questions – Suggested answers

Miss AK is discharged to home after a 4-week admission. She returns for follow-up in the rehabilitation outpatient clinic 8 weeks after the original injury. She reports that she is taking the following medications:

Fluoxetine 40 mg daily
Lithium carbonate 500 mg daily
Diclofenac 50 mg three times daily
Oxycodone 20 mg four times daily
Slow-release oxycodone 80 mg twice daily
Tramadol 100 mg qid
Warfarin 2 mg daily

Question F

List four (4) changes you will make to her current medications during this consultation.

- Cease diclofenac (interaction with lithium)
- Wean/cease tramadol (potential for serotonin syndrome)
- Convert short-acting opiate to long-acting
- Change opiates to a form with lower potential for abuse e.g. topical/methadone
- Consider addition of anti-epileptic/antidepressant pain medication

AFRM Adult Fellowship Example Modified Essay Questions – Suggested answers

QUESTION 4

You are a Rehabilitation Physician in a rehabilitation unit which is part of a tertiary metropolitan hospital.

Mr PD is a 44-year-old male who experienced subarachnoid haemorrhage (SAH) with intraventricular haemorrhage resulting from rupture of anterior communicating artery aneurysm, which was managed with coiling.

Mr PD has background of renal impairment secondary to autosomal dominant polycystic kidney disease. Prior to his SAH, he lived with his wife, and worked full-time as the Deputy Principal of a Secondary School.

Question A

What is the first-line imaging modality used in the diagnosis of acute SAH?

Non-contrast CT scan

You are asked to review Mr PD 1 week into his admission regarding his suitability for inpatient rehabilitation. You review his admission notes.

Question B

List six (6) specific complications seen in the early stages after the SAH.

- Re-bleeding
- Secondary/delayed cerebral ischaemia
- Cerebral vasospasm
- Increased intracranial pressure
- Cardiac abnormalities – ECG changes, troponin release, left ventricular dysfunction
- Unstable/labile blood pressure
- Electrolyte imbalance/hyponatraemia
- Seizures
- Hydrocephalus
- Delirium

Mr PD is transferred to inpatient rehabilitation. You mention to your Registrar that this patient will need to be monitored for complications resulting from his renal impairment.

Question C

Other than hyperkalaemia, list three (3) metabolic problems related to chronic renal failure that you need to be aware of, and which should be monitored for in this patient.

- | | |
|-----------------------|----------------------|
| - Hyperphosphataemia | - Metabolic acidosis |
| - Hypocalcaemia | - Albuminuria |
| - Hyperparathyroidism | - Proteinuria |

AFRM Adult Fellowship Example Modified Essay Questions – Suggested answers

From blood tests that were taken on the day of Mr PD's transfer to inpatient rehabilitation, a potassium level of 6.9 mmol/L is noted.

Question D

Other than requesting an electrocardiogram, list four (4) things the registrar should do at this point.

- Confirm sample not haemolysed
- Review recent trend
- Review renal function
- Review medications especially potassium-sparing meds
- Inform consultant
- Check for hypocalcaemia (can exacerbate rhythm abnormalities)
- Administer potassium binding agents
- Insulin/glucose
- Calcium gluconate
- Salbutamol
- Sodium bicarbonate
- Consider dialysis in consultation with renal physician
- Monitor EUC/potassium
- Monitor ECG

Question E

List two (2) electrocardiogram (ECG) changes frequently associated with potassium of this level.

- Tall peaked T waves
- Prolonged P-R interval
- Widening of P-waves
- Absent P-waves
- Shortening of Q-T interval

During the first case conference regarding Mr PD, the Occupational Therapist mentions that Mr PD has apraxia affecting his upper limbs.

Question F

Define apraxia.

- The inability to perform a movement with a body part despite intact sensory and motor function
- Disorder of motor planning

AFRM Adult Fellowship Example Modified Essay Questions – Suggested answers

Question G

Describe three (3) bedside assessments you should perform to assess Mr PD's apraxia.

- Imitation of meaningful gesture. For example, salute, wave. (Ideomotor apraxia)
- Imitation of meaningless gesture e.g. body and non-body oriented positions. (Ideomotor apraxia)
- Perform meaningful gesture on command. For example, salute, wave. (Ideomotor apraxia)
- Demonstrate use of imagined objects. For example, comb your hair, brush your teeth. (ideational apraxia)
- Demonstrate use of real objects e.g. screwdriver, pen (ideational apraxia)
- Perform a sequencing task
 - o e.g. Luria three step command (fist, edge, palm)
 - o e.g. alternating hand movements test – examiner demonstrates with arms outstretched, and alternately opening and closing the fingers of each hand such that one hand opens as the other closes in a fist.
- Dressing apraxia – patient asked to dress with an inside out cardigan
- Constructional apraxia – interlocking pentagons

Three weeks after his SAH, Mr PD has progressed well and is to be discharged in a couple of days. During your final review of Mr PD before he is discharged home, he asks when he can return to driving.

Question H

Outline eight (8) key components for a return to driving plan for Mr XY.

- Education of Mr XY and his wife re the legal requirements for driving
- No driving for 4 weeks
- Responsibility to inform relevant driving authority
- Responsibility to inform insurer
- Need for periodic specialist review
- Counsel re realistic expectations
- Formal assessment of visual fields
- Cognitive screening/neuropsychology assessment
- OT driving assessment off road
- OT driving assessment on road
- OT driving re-training
- Consider driving restrictions (give a reasonable example)
- If driving not possible, consider alternatives e.g. public transport training, community transport, disabled taxis etc

AFRM Adult Fellowship Example Modified Essay Questions – Suggested answers

Mr PD returns to your outpatient clinic for review 3 months after the SAH, and is accompanied by his wife. At the consultation, Mr PD reports concerns about his memory, and that he feels “depressed”. His GP has commenced him on amitriptyline for management of depression.

Question 1

List four (4) commonly reported side-effects of amitriptyline.

CVS

- Syncope
- Dizziness
- Palpitations
- Tachycardia

CNS/neuromuscular

- Confusion
- Somnolence/tiredness/drowsiness
- Headache

Anticholinergic

- Dry mouth
- Constipation
- Blurred vision
- Difficulty focusing
- Somnolence
- Urinary hesitancy
- Abdominal pain due to urinary retention

GI

- Nausea
- Vomiting
- Altered sense of taste

Other

- Weight change (increase or decrease)
- Increased sweating
- Altered sex drive

Do not accept

“Anticholinergic side effects” – must specify SE

AFRM Adult Fellowship Example Modified Essay Questions – Suggested answers

Question J

List four (4) evidence-based non-pharmacological approaches for management of mild to moderate depression in a person with a new disability.

- Cognitive behavioural therapy
- Interpersonal psychotherapy
- Non-directive counselling
- Problem-solving therapy
- Mindfulness
- Relaxation
- Team based approach
- Specialist review
- Moderate intensity exercise (45 min three times weekly)
- Watchful waiting
- Written self-help material/self-management

You explain to Mr PD and his wife that depression is a relatively frequent occurrence after SAH, and may be in response to residual frontal lobe losses. You suggest he undergo neuropsychological testing in preparation for his return to work planning.

Question K

List three (3) screening tools specific for frontal executive dysfunction.

- Clock drawing test
- Trail making test/Trails A and B
- Digital span backward test
- Verbal fluency test
- Word fluency test
- Animal naming test
- Lexical fluency test
- Design fluency test
- Tap Task
- Alternating sequences
- Months of the year
- Tower of London
- Cognitive estimation test
- Frontal assessment battery
- Wisconsin card sorting test
- Brixton spatial anticipation test

AFRM Adult Fellowship Example Modified Essay Questions – Suggested answers

QUESTION 5

You are a Rehabilitation Physician in a regional public hospital. You are asked to review a 60-year-old lady, Ms BP on the Orthopaedics ward.

Ms BP has a background of a T10 ASIA B (Thoracic level 10, American Spinal Cord Injury Association Grade B) spinal cord injury following a motor vehicle accident 20 years ago.

She was admitted to hospital 5 days ago following a fall when transferring out of bed. She was diagnosed with bilateral pubic ramus fractures.

She is a current smoker, and has smoked a packet of cigarettes daily for approximately 40 years. She drinks half a bottle of wine most nights. She eats take-away food for most of her meals, and states that she has gained “a lot of weight in the last few years”. Her current Body Mass Index (BMI) is 41.

When you see her, she is lying on a regular mattress. She complains of moderately severe ill-defined pain her legs. The Orthopaedic team has recommended non-operative management of her pelvic fractures. She has an indwelling catheter, and last opened her bowels prior to admission. You note a grade two sacral pressure area. Her fasting blood sugar level is 12 mmol/L and blood pressure of 160/100 mmHg.

Question A

List six (6) issues which should take priority in the medical management of Ms BP.

- DVT surveillance – high-risk for DVT
- DVT prophylaxis
- Sacral pressure area care – side lying, air cell mattress, dressing
- BSL control
- Pain management
- Bladder management
- Risk of UTI with presence of IDC
- Bowel management
- Enforcing movement/weight bearing restrictions
- Falls risk/implement falls prevention strategies for the ward
- Smoking cessation advice/nicotine patches
- Alcohol withdrawal scale
- Mental health screening
- Blood pressure management
- Staff education re above

Do not accept autonomic dysreflexia (injury level too low)

AFRM Adult Fellowship Example Modified Essay Questions – Suggested answers

The nurses point out to you that Ms BP has not opened her bowels since she was admitted 5 days ago.

Question B

List five (5) principal components of a bowel care regimen for Mrs BP, giving a brief reason for each component.

- Education of patient/self-efficacy/empowerment
 - Understanding of need for self-management of components
- Staff education
 - Understanding of need for bowel management and implications of mismanagement
- Monitoring/bowel chart/recording of results/monitor for complications
 - Facilitates appropriate modification of program
 - Facilitates early identification of complications
- Fibre in diet
 - High fibre – assists with bulking
 - High fibre may reduce incidence of incontinence
 - Fibre may prolong transit time in SCI patients, not always recommended (level 4 evidence)
- Adequate fluids
 - Softer stool
 - Easier to move
 - Gastro colic reflex
- Medications – stool softeners e.g. Coloxyl, plant fibres e.g. psyllium, osmotic agents e.g. Movicol:
 - Helps to titrate stool to right consistency.
- Maximise activity levels
 - Gravity aids stool movement
 - Abdominal excursion aids stool movement
- Establish a consistent desired time to implement bowel care procedure
 - Promote habituation of bowel movements
 - Social continence
- Stimulation to increase motility – digital
 - Increase motility left side of colon (level 4 evidence)
 - Facilitates predictable bowel emptying time
- Use of gastrocolic reflex – bowel timing post-meals
 - Reduce need for medications
- Use of suppositories e.g. Bisacodyl
 - Reduce bowel care time (Level 1b evidence)

AFRM Adult Fellowship Example Modified Essay Questions – Suggested answers

Ms BP lives alone in rural New South Wales, and receives a government disability pension. She has not had any specialist follow-up regarding her spinal cord injury for many years. She has a General Practitioner, who she sees when needed. She has an account with a medical supplier for her bladder management needs.

Prior to admission, Ms BP was mobile with a manual wheelchair, using a sliding board for transfers. She was independent with self-care and had no support services in place. She performed regular self-catheterisation. She had three urinary infections in the past year.

You accept care of Ms BP, and she is transferred to your onsite rehabilitation unit.

Over the last few years, Ms BP has been experiencing gradually worsening pain in both her shoulders. An ultrasound performed earlier this year prior to admission showed bilateral partial rotator cuff tears. Ms BP has been concerned about her worsening shoulder function and pain.

Question C

Outline six (6) strategies to reduce the likelihood of further deterioration in her shoulder function and pain.

- Using a Powerchair instead of manual wheel chair
- Limit manual chair to use indoors/exercise purpose only
- Modify MWC rim/power assist drive
- Use light-weight manual chair with modified axle position to reduce UL stress
- Review transfer style and pressure relief strategy
- Reduce total transfers from chair to bed
- Consider hoist transferring
- Posture education
- Consider supra pubic catheter
- Supportive armrests
- Upper limb endurance and strength training programme
- Weight loss planning
- Explore pain management agents: paracetamol, opioids
- Interventional pain procedures (subacromial bursa injection, supra scapular nerve block)

AFRM Adult Fellowship Example Modified Essay Questions – Suggested answers

During the case conference, you discuss discharge planning for Ms BP with the rehabilitation team. The Occupational Therapist says that Ms BP will need a powered wheelchair on discharge.

Question D

List four (4) important features of the prescription of a power wheelchair for Ms BP.

- Specify control mechanism
- Tilt-in-Space for adequate pressure relief
- Cushion, adequately pressure mapped
- Moulded backrest, adequately pressure mapped
- Bariatric wheelchair/bariatric chair frame, cushion and backrest
- Removable arm rests (assist with sling transfers)
- Ensuring circulation space and width suitable to current home environment

Question E

Other than a power wheelchair, list four (4) pieces of equipment or assistive devices which may assist with Ms BP's successful discharge home.

- Hoist (to her weight specifications)
- Low friction slide sheet for slide board transfer when hoist not used.
- Commode chair
- Bariatric bed
- Suitable mattress to provide more pressure support as higher pressure area risk
- Appropriate care package
- Ramp
- Rails
- Assistive devices e.g. Ezi reacher, bottom wiper etc
- Continence equipment to support any changes with bladder management that are suggested (e.g. change in catheter type, night bags etc)

AFRM Adult Fellowship Example Modified Essay Questions – Suggested answers

Ms BP is discharged to home after 6 weeks of inpatient rehabilitation.

She returns for follow-up in the rehabilitation outpatient clinic 8 weeks after discharge. She brings the results of a Bone Mineral Density scan report which you had requested on discharge. The T score is -3.5 for the left hip.

Question F

List six (6) important risk factors for osteoporosis in Ms BP.

- Spinal cord injury
- Alcohol
- Smoking
- Age
- Post-menopausal
- Poor nutrition/oral vitamin D deficiency/oral calcium deficiency/oral protein deficiency
- Lack of sun exposure/probable vitamin D deficiency
- Impaired glucose tolerance/metabolic syndrome
- Limited weight bearing physical activity

She had elected to continue with self-catheterisation. Since her discharge home, she has had one urinary tract infection and is experiencing urinary leaking between self-catheterisations at least daily.

Question G

Outline four (4) actions in your plan for monitoring long-term bladder health in Ms BP.

- Yearly intravenous pyelogram (IVP)/Renal tract ultrasound (for monitoring any high-pressure bladder changes/calculi development)
- Bi-annual renal function tests: e.g urea, electrolyte creatinine, creatinine clearance, EGFR
- Document plan
- Communicate plan with GP and other health care workers
- Educate patient
- Bi-annual clean catheter urine culture and sensitivity (to identify colonising organism and its sensitivity)
- Urodynamic study if changes in screening tests noted and/or increase in UTI.
- Community nurse review to check for compliance, technique and hygiene with self-catheterisation.
- Cystoscopy to monitor any bladder wall changes

AFRM Adult Fellowship Example Modified Essay Questions – Suggested answers

QUESTION 6

Miss DW is a 38-year-old female, who was given a confirmed diagnosis of relapsing remitting multiple sclerosis 2 months ago, after two symptomatic exacerbations 1 year apart. The magnetic resonance imaging (MRI) brain scan showed areas of increased T2 signals in both cerebral hemispheres and the left cerebellum. Cerebrospinal fluid (CSF) obtained during a spinal tap revealed the presence of oligoclonal bands. Miss DW has been put on natalizumab (Tysabri™).

Question A

What does the presence of oligoclonal bands in the CSF indicate?

Activity of immune system in/around the CNS compartments.

Question B

List four (4) nervous system side effects or complications of natalizumab (Tysabri™).

- Headache
- Dizziness
- Tremors
- Syncope
- Somnolence
- Progressive multifocal leukoencephalopathy (PML)
- Confusion
- Personality changes

You are seeing Miss DW for her initial rehabilitation assessment in the rehabilitation outpatient service of a tertiary hospital. She has been referred to you by her neurologist, and to date, she has not had any contact with rehabilitation, allied health or community health services.

She had one fall a month ago without injury, and reports poor balance. She reports painful spasms in her legs. She walks without assistance with a single point stick in her right hand to a maximum distance of 60 metres before resting. She reports that she always feels tired. She is independent with her personal activities of daily living, though she takes longer than she used to and now has to sit down to shower and dress. She avoids cleaning the house because of fatigue. She continues to drive an automatic car.

When you examine her, you note slight reduction in upper and lower limb power, lower limb spasticity, ataxic gait, truncal ataxia and intention tremor of the left upper limb with past pointing.

AFRM Adult Fellowship Example Modified Essay Questions – Suggested answers

Question C

How are “cerebellar” tremors distinguished from tremors due to basal ganglia disease?

Cerebellar tremors – intention tremor/occurs with volitional movement

Basal ganglia – resting tremor/subsides with volitional movement.

Question D

Other than fatigue management, list ten (10) issues in your rehabilitation medicine plan for this lady.

Health condition

- Medical management optimisation
- Patient education
- Medication compliance
- Peer support/support groups
- Monitor for complications/progression/severity

Impairments

- Pain
- Endurance
- Balance
- Weakness
- Sensory loss
- Spasticity
- Cognition
- Sexuality
- Bladder
- Bowel
- Speech
- Swallow
- Mental health/psychological wellbeing

Activity

- Mobility
- Personal ADLs
- Domestic ADLs
- Driving
- Need for equipment/assistive devices

Participation

- Work function
- Social function

Environment

- Home environment
- Work environment
- Need for modifications

Personal factors

- Self-efficacy
- Weight management

Other

- Falls risk/prevention
- Optimise health-related quality of life/quality of life

You advise Miss DW that exposure to increased temperature can make fatigue and weakness worse.

Question E

What is the scientific basis for symptoms exacerbation due to temperature in MS?

Heat **delays impulse conduction in demyelinated axons** in multiple sclerosis.

(Only slight increase in temp is needed to result in conduction block.)

AFRM Adult Fellowship Example Modified Essay Questions – Suggested answers

Question F

Other than temperature control strategies, list six (6) non-pharmacological approaches for managing fatigue in multiple sclerosis.

- Pacing of activities
- Regular rest break/rest/activity ratio
- Energy conservation e.g. prioritise activities/time mx/environmental reorganisation
- Assistance with PADL/carers
- Assistance with DADL/services
- Assistive devices
- Review work ergonomics
- Consider altered duties
- Consider part-time hours
- Optimise sleep e.g. spasticity
- Exclude/manage stress/depression
- Exclude and manage other biological causes e.g. thyroid, anaemia, infections
- Improve aerobic fitness/progressive low intensity exercise program
- Strengthening → movement efficiency
- Improve spasticity → movement efficiency
- Peer support

There are a number of medications which have been used to manage fatigue in multiple sclerosis.

Question G

Name two (2) medications which may be used to assist in the management of fatigue in multiple sclerosis, and give the mechanism of action for each.

Medication	Mechanism of action
Amantadine	Antiviral medication Dopaminergic Increase neural activity
Modafinil	CNS stimulant Wakefulness promoting
Pemoline	CNS stimulant Dopaminergic action
4-Aminopyridine	Voltage dependent potassium channel blocker Increase nerve transmission
L-carnitine	Component of cellular mitochondrial energy production Acetylcholine production in CNS Anti-oxidant Anti-inflammatory
Disease modifying agents	Reduction in inflammation
Dexamphetamine	CNS stimulant Dopaminergic action
Methylphenidate	CNS stimulant

AFRM Adult Fellowship Example Modified Essay Questions – Suggested answers

Question H

List two (2) disease specific outcome measures for multiple sclerosis.

- Expanded Disability Status Scale
- Incapacity Status Scale
- Environmental Status Scale
- MS Functional Composite
- MS Quality of Life inventory
- Ambulation index
- Multiple Sclerosis Impact Scale
- MS Walking Scale
- Scripps neurological rating scale
- MS Quality of Life: 54

You refer Miss DW for outpatient rehabilitation. The rehabilitation physiotherapist wants to use “Timed Up and Go” as one of the outcome measures.

Question I

List six (6) components of the Timed Up and Go.

- Stand up from sitting position
- Walk 3 m (10 ft)
- Turn 180 degrees
- Walk back 3 m
- Turn 180 degrees
- Return to sitting
- Collect equipment
- Instruct patient
- Record results

Six months later, Miss DW returns for rehabilitation follow-up with you. She reports the recent onset of pain in her right hand and wrist, with a feeling of numbness in her right hand. These symptoms are worst at night and affect her sleep and daily activities. You would like to further investigate this with neurophysiology studies to rule out carpal tunnel syndrome.

Question J

List four (4) abnormalities in neurophysiology studies that would support a diagnosis of carpal tunnel syndrome.

- Sensory nerve action potential – prolonged latency in median nerve
- Sensory nerve action potential – decreased amplitude in median nerve
- Absent or reduced sensory evoked response in median nerve
- Compound motor action potential – prolonged latency of APB
- Compound motor action potential – decreased amplitude of APB
- Slowed nerve conduction velocity
- Loss of motor units on EMG of thenar muscles
- Presence of denervation potentials in the thenar muscles
- Abnormal combined sensory index/Robinson index

AFRM Adult Fellowship Example Modified Essay Questions – Suggested answers

Question K

List four (4) non-operative treatment options for carpal tunnel syndrome in Miss DW.

- NSAID
- Diuretics
- Injections (LA/Steroid)
- Wrist splints (resting, functional)
- Physical modalities (therapeutic ultrasound, TENS)
- Optimise equipment/ergonomic modification at work
- Exercises for stretching and strengthening; nerve and tendon e.g. gliding exercises; carpal bone mobilisation
- Re-train functional tasks involving upper limb (e.g. typing, meal prep)
- Minimise repetitive tasks
- Correct poor technique with stick

Not accepted – systemic steroids

AFRM Adult Fellowship Example Modified Essay Questions – Suggested answers

QUESTION 7

Ms AF is a 21-year-old refugee who arrived in your rural community 6 months ago with her parents and two brothers to join other members of her extended family who had settled here 3 years ago. She is unable to read or write English, except at a very basic level. She had recently found work at the local supermarket stacking shelves, and is employed on a casual basis. She has also joined a local Women's Group making handcrafts.

Two weeks ago, Ms AF slipped in the bathroom at her rented home, striking her head on the bathtub rim. She sustained loss of consciousness of several minutes and was admitted to the local hospital. A Computerised Tomography (CT) scan of her brain demonstrated a small intracerebral haemorrhage in the right frontoparietal region, which was managed non-operatively.

Ms AF was transferred to the rehabilitation ward 3 days after admission. On examination at admission, the registrar notes "mild weakness and spasticity of the left upper limb" in the medical record.

Question A

List four (4) options for conveying information to Ms AF and her family.

- Hospital interpreter service
- Booking of Community Interpreter Service
- Telephone interpreter service, especially if out-of-hours and interpreter service from hospital/community not available
- Video interpreter service especially for rural/remote communities
- Use of formally trained community ethnic health support workers/Migrant Health Officers
- Bilingual staff
- Written health information in relevant language – often available in the hospital, can be requested from government health services or downloadable from the internet
- Use of a close relative or friend
- Ward communication tool (sheet or booklet with pictures conveying commonly used words/concepts e.g. toilet, taking blood, as well as the word in appropriate language, and the word as pronounced phonetically)
- Rely on the patient's limited English-language skills, which is not ideal

AFRM Adult Fellowship Example Modified Essay Questions – Suggested answers

Ms AF has always used her right hand for eating, and her left hand for personal care tasks such as bathing and personal hygiene due to her religious and cultural beliefs. At the weekly multidisciplinary team meeting, the Occupational Therapist reports that Ms AF's left upper limb weakness and spasticity significantly interfere with her ability to independently bathe and tend to personal hygiene. Ms AF will not use her right hand to assist in self-care tasks.

You acknowledge that the Occupational Therapist has unusual challenges in this case, and that they may need to be more inventive than usual in identifying how to assist this person with what could be considered bilateral upper limb dysfunction in the presence of normal lower limb function.

Question B

List six (6) things that the Occupational Therapist can do to assess and address her personal care issues both now and possibly in the future.

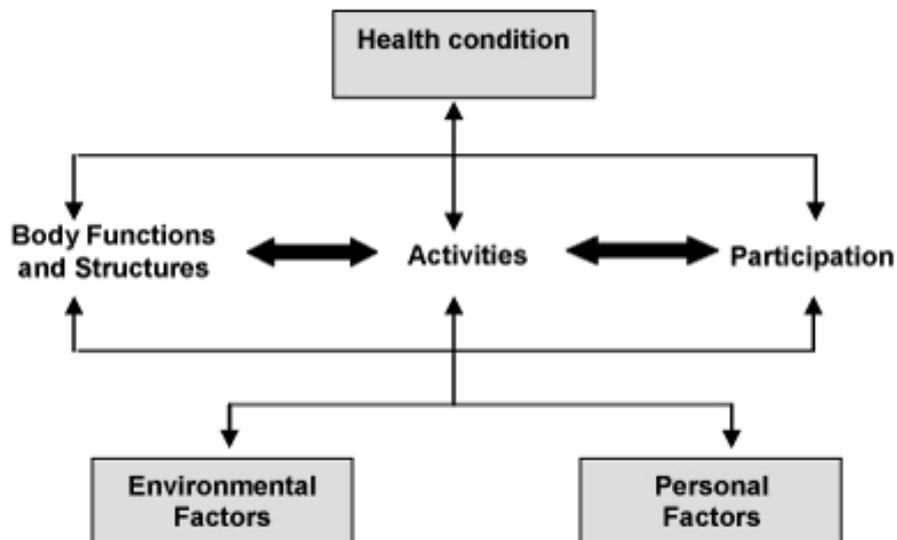
- Use of **interpreter** to establish Ms AF's concerns
- Liaise with patient, family, community health workers, to **establish cultural implications** and highlight capacity for flexibility re use of right hand in self-care tasks
- Discussion with medical team re **medical** management of spasticity
- Therapy to increase **strength**
- Therapy to increase **range of movement** of left upper limb
- Therapy to reduce spasticity of left upper limb e.g. **stretches**
- Consider **orthotics** prescription
- Trial **aids** e.g. thick sponges, soap on rope, washer strapped to arm
- Trial **equipment** to negate need for use of left hand e.g. bidets, hands free sensors on taps, longer lever arms on taps
- Ongoing **assistance** with self-care tasks e.g. by mother, women's group, female personal care assistants if appropriate

AFRM Adult Fellowship Example Modified Essay Questions – Suggested answers

Ms AF is discharged home after 2 weeks of inpatient rehabilitation. Meanwhile, you are asked to prepare a medicolegal report on Ms AF for a civil compensation suit.

Question C

Using the World Health Organization's International Classification of Functioning, Disability and Health (ICF) depicted below, outline one (1) example of each of the domains relevant to Ms AF for the purposes of this report.



- Health condition
 - Head injury
 - Intracerebral haemorrhage
- List of body functions and structures
 - Weakness left upper limb
 - Spasticity left upper limb
- Activity
 - Unable to wash
 - Unable to tend to perineal hygiene
- Participation – issues with return to
 - Leisure activities (e.g. handcrafts)
 - Work activities (e.g. stacking supermarket shelves)
- Environmental factors
 - Social support
 - Medical system discrimination
 - Language barrier
- Personal factors
 - Religious/cultural beliefs
 - Inflexibility

AFRM Adult Fellowship Example Modified Essay Questions – Suggested answers

You realise that you do not know if Ms AF has cognitive impairments. You speak with your team and arrange for a Psychologist to perform Wechsler Adult Intelligence Scale testing in her language.

Question D

List two (2) tests for each of the verbal and non-verbal components of the WAIS.

Verbal IQ	Performance IQ
Verbal comprehension index Vocabulary Similarities Information Comprehension	Perceptual organisation index Picture completion Block design Matrix reasoning
Working memory index Arithmetic Digit span Letter-number sequencing	Processing speed index Digit symbol-coding Symbol search

Ms AF returns to the outpatient clinic 6 weeks after the injury. A hospital interpreter and a medical student are present during the consultation. Ms AF reports that she has ongoing headaches for which she has been taking paracetamol 1 g four times a day.

Question E

List two (2) possible causes of headaches that you should consider.

- Post-traumatic headaches
- Missed skull fracture
- Migraine
- Tension headache
- Cervicogenic headache
- Rebound headache

AFRM Adult Fellowship Example Modified Essay Questions – Suggested answers

Ms AF has not returned to work since her injury, but is keen to go back to work. You note that her psychologist report suggests that she has a verbal IQ of 115 and a performance IQ of 105.

Question F

Outline twelve (12) important components in your return to work plan for Ms AF.

Engage relevant parties

- Engage patient
- Engage family
- Engage employer
- Use interpreters

Assessment – patient

- Establish goals
- Hand weakness
- Hand sensory abnormalities
- Neglect?
- Hand spasticity
- Hand function
- Cause of headache
- Cognitive screening/Neuropsychology
- Mobility
- Personal ADLs
- Functional capacity assessment (likely deconditioning)
- Psychological evaluation e.g. depression/PTSD/anxiety
- Establish capacity to perform work tasks

Assessment – work

- Establish if previous job still available
- Establish employer goals
- Determine job tasks

Plan

- Establish prognosis/likelihood of returning to previous role
- Manage health issues as relevant
- Work simulation
- Altered duties as indicated by physical/cognitive/psychological condition
- Reduced hours
- Work hardening/conditioning
- Work conditioning program
- Supervisory arrangements
- Graduated return to work program
- If patient can't return to previous work explore retraining, new skills acquisition etc
- Centrelink ... referral to Commonwealth Rehab
- Possibility of government support til RTW
- Refugee support English lessons
- Support for post-school education options

Communicate

- Document return to work plan
- Communicate plan with patient
- Liaise with the rehab provider/return to work coordinator
- Liaise with the workplace
- Regular follow-up with GP/specialist
- Follow-up re progress of RTW and upgrade
- Follow-up re education opportunities

AFRM Adult Fellowship Example Modified Essay Questions – Suggested answers

Following the consultation with Ms AF, the medical student asks you about classification of traumatic brain injury severity.

Question G

Complete the table below regarding classification of severity of traumatic brain injury.

	Glasgow Coma Scale score	Duration of post-traumatic amnesia	Duration of loss of consciousness
Mild	13–15	Less than 24 hours	0 to 30 minutes
Moderate	9–12	1 to 7 days	30 min to 24 hours
Severe	3–8	Greater than 7 days	> 24 hours