MENTAL HEALTH

- Always use a calm empathic approach to patients with mental illness –they respond best to someone who listens to them properly.
- Antrim hospital is introducing a pilot programme whereby patients with mental health, addictions problems and frail elderly with possible depression or dementia will be assessed by one team with all referrals going through a single point of entry and single phone number. This will be rolled out in piecemeal fashion over the next 6 months.

Common conditions that you will encounter are self harm, substance abuse, depression with suicidal ideation and panic attack disorder. Many of these presentations are commonest during the night.

Patients should undergo medical and mental health assessment in tandem. All patients with mental health presentations should be triaged according to the Mental Health Triage Tool as detailed on the next two pages.

If the patient has no medical needs they can be referred by the Triage nurse to be seen directly by RAID team in the Observation Ward.

Those with medical needs with the exception of symptoms suggestive of psychosis may also wait in the Observation for RAID and their medical assessment a copy of the notes will be left in the relevant Majors or Minors area and the doctor should attend to them in turn. Patients with medical needs requiring immediate intervention should be managed in resus appropriately before inward referral, likely to an inpatient team rather than the Observation Ward.

Patients should be for for assessment at time of referral to RAID (this is different from medically fit for discharge). Alcohol levels are NOT to be sent on patients with mental health presentations unless clinically indicated (blood alcohol has very limited clinical benefit).

Patients triaged as “red” must be seen as a priority to safety concerns of the patient, staff or others.

The Mental Health Order (Northern Ireland) 1986 is detailed in the next section. These patients may be suitable for RAID assessment but may require formal detention.

Patient Details (use addressograph label)		Date:	
Surname:		Time:	
First Name:		Accompanied by:	
DOB:		Contact telephone:	
NHT number:		Description:	
H+C number:			
Contact number:			

Brief history of episode from patient
Information from relatives / others

Risk Assessment	**YES**	**NO**	**Actions**
Is the person requiring immediate life-saving treatment for airway compromise, inadequate breathing, shock, seizure or hypoglycaemia?	☐	☐	• **Alert medical staff immediately** • **Resuscitate using ABCDE approach**
Is the person displaying violent or threatening behaviour or are there reports of violent behaviour?	☐	☐	• Continuous 1:1 visual surveillance • Alert Nurse in charge and senior ED doctor • Ensure safe environment for patients and others • Consider security +/- PSNI if staff or patient safety compromised • Consider use of MHO • Consider medical cause for behaviour
Is there obvious immediate risk to the department, staff or patients eg. Possession of a weapon?	☐	☐	
Does the patient require restraint (by staff or PSNI)?	☐	☐	
Is the person confused, extremely agitated or distressed or unable to co-operate with assessment?	☐	☐	
Has the person an altered level of consciousness, acute neurological deficit, abnormal pulse or very low SaO_2?	☐	☐	• **Alert medical staff urgently** • **Manage using ABCDE approach**
Is there person acting in a bizarre manner or are there reports of about hallucinations or delusions?	☐	☐	• **Refer to Mental Health Team as soon as able after medical assessment**
Has the person presented with overdose, poisoning, self harm?	☐	☐	• Continuous visual supervision • Inform Nurse in charge • Inform ED clinician of possible need for parallel medical assessment • Refer to MHT for immediate response or Consider use of MHO • Ensure safe environment for patient and others. Use defusing techniques as required • Consider security +/- PSNI if staff or patient safety compromised
Is the person actively suicidal or are they expressing *immediate* plans to self harm?	☐	☐	
Is the patient at risk of leaving before psychosocial assessment or medical treatment? *need to complete 'psychosocial assessment in the ED'*	☐	☐	

Print out latest TOXBASE information for all toxins / drugs www.toxbase.org			☐ Tick when complete
Is ACTIVATED CHARCOAL indicated?	☐ YES	☐ NO	If yes discuss promptly with doctor or use PGD

Risk Assessment	YES	NO	Actions
Is there a history of head injury, unconsciousness, new neurological deficit or low SaO_2?	☐	☐	• **Requires medical assessment**
Is there a history of major psychiatric illness or event?	☐	☐	• Close supervision, do not leave alone without support person • Ensure safe environment for patient and others. • Refer to MHT for urgent response • May need to consider medical assessment • Consider re-triage if evidence of increasing behavioural disturbance or medical deterioration
Has the person suicidal ideation or expressing a desire to harm themself without immediate intent?	☐	☐	
Is there a potential to harm others?	☐	☐	
Is the person markedly distressed, agitated or restless?	☐	☐	
Is the person very withdrawn or uncommunicative?	☐	☐	
Is the person expressing thoughts of life not worth living or hopelessness?	☐	☐	
Is there ambivalence towards assessment or lack of engagement?	☐	☐	
Does the person deny suicidal ideation or self harm?	☐	☐	• Intermittent observation • Refer to MHT for routine response or consider Card Before You Leave (*need to complete 'Psychosocial Assessment in the ED' before CBYL referral)* • May need to consider medical assessment • Consider re-triage if evidence of increasing behavioural disturbance or medical deterioration
Is the person displaying minimal or no agitation or restlessness?	☐	☐	
Is the patient co-operative?	☐	☐	
Does the person report symptoms of anxiety or depression?	☐	☐	
Does the person report social, accommodation or relationship difficulties?	☐	☐	

Does the patient have dependents or children or have regular access to same?	☐ YES	☐ NO	Details:
UNOCINI commenced	☐ YES	☐ NO	Details:
SOSCARE checked	☐ YES	☐ NO	Details:
Does the patient have their own safeguarding needs? eg. Vulnerable adult	☐ YES	☐ NO	Details:

Medical Needs Identified	☐ YES	Stream as per MT category while awaiting MHT assessment
	☐ NO	Suitable for direct referral to MHT

Fit for referral to Mental Health Team and agrees to assessment **Tel:336208**	☐ YES	Accepted by: Time:
	☐ NO	Reason not referred:

Triage completed by: Grade:	Signature :

The patient presenting with pyschosis

a) Is there any evidence of rational thinking loss?

If the patient is psychotic, your second task is to exclude organic disease requiring medical treatment (until an organic cause is excluded the patient must remain under your care).

b) Are there any Features that suggest Organic Psychosis?

- Sudden onset
- Fluctuation
- Non-auditory hallucinations
- Clouding of Consciousness (Orientation must be assessed and documented properly)
- Disturbed cognitive function –eg serial 7s
- Identifiable cause of confusion eg alcohol or drug misuse, sepsis, head injury, metabolic or electrolyte disturbance

c) Management of patients with psychosis

- Use diffusing techniques as required
- Rapid sedation of patients with altered mental state should inly be undertaken by the senior ED doctor.
- Treat any underlying organic causes and admit under medical team
- If no underlying organic cause found refer for mental health assessment – to RAID who will undertake this assessment if patient is willing otherwise the patient will require assessment under the Mental Health Order (NI) 1986. The EPIC / consultant on call should be made aware of these patients.

Focused Psychosocial Assessment of Needs in the ED.

The following is the agreed assessment to be used in the ED. Patients often find it distressing having to repeat their story to several different people so this assessment does not need to be undertaken by ED staff if there will be a timely RAID assessment. The exceptions to this are:

High risk patients as determined by a multiple positive responses or single high risk(*) responses should not be discharged home by junior medical staff without consulting with senior medical staff. These patients should be assessed by RAID on this attendance

Psychosocial Assessment in the ED

- To be completed if change in mental state, considering CBYL or if patient at risk of absconding.
- The aim of this assessment is to qualify risks – a greater number of positive responses suggest greater level of risk for self harm. Items with an * may indicate high risk
- Not required if MHT psychosocial assessment completed
- Always consider if a medical illness could be the cause of the presentation

1. General Observations	**YES**	**NO**
Is the person displaying violent or threatening behaviour or are there reports of same?*	☐	☐
Does the person pose an immediate risk to self, you or others?*	☐	☐
Does he/she have specific ideas or plans to harm anyone else?*	☐	☐
Does he/she have a history of violence?	☐	☐
Is there any suggestion, or does it appear likely that the person may try to abscond?*	☐	☐
If yes to any of the above, record details below:		

2. Appearance and Behaviour	**YES**	**NO**
Is the person obviously distressed, markedly anxious or highly aroused?	☐	☐
Is the person behaving inappropriately to the situation?	☐	☐
Is the person quiet and withdrawn?	☐	☐
Is the person inattentive and unco-operative?	☐	☐
Give details:		

3. Medical and Mental Health	**YES**	**NO**
Does the patient have a history of mental health problems or psychiatric illness?	☐	☐
Is the person currently attending mental health services?*	☐	☐
Is there poor adherence to psychiatric treatment?	☐	☐
Does the patient describe symptoms of depression?*	☐	☐
Is the person experiencing thoughts of helplessness or hopelessness?*	☐	☐
Is the person acting in a bizarre manner or are there reports about hallucinations or delusions?*	☐	☐
Does the person feel controlled or influenced by external forces or is there evidence of psychosis?*	☐	☐
Is there a history of suicide amongst family or friends?*	☐	☐
Is there a history of chronic illness or pain?	☐	☐
If yes to any of the above, record details below:		

4. Current Presentation
Why is the person presenting now?
What recent event(s) precipitated or triggered this presentation?

5. Self Harm	YES	NO
Does the person have a past history of overdose, poisoning or self harm?* (Dates if possible)	☐	☐
Previous use of violent methods of self harm?*	☐	☐
Does the person have access to lethal means of harm?	☐	☐
Did the person present with self harm?*	☐	☐
If yes, did they intend to die?*	☐	☐
Was there evidence of planning?*	☐	☐
Was there evidence of suicide note/text/email etc?*	☐	☐
Were precautions taken to prevent rescue?*	☐	☐

If yes to any of the above, record details below:

6. Alcohol and Substance Misuse	YES	NO
Is there a history of alcohol or substance misuse?	☐	☐
Is the person currently under the influence of alcohol or substances?	☐	☐

If yes to any of the above, record details below:

7. Social History	YES	NO
Male gender?	☐	☐
Is the person aged 65 or older?*	☐	☐
Is the person separated, widowed or divorced?	☐	☐
Is there a lack of social support or live alone?	☐	☐
Is the person unemployed or retired?	☐	☐
Is there a current personal crisis eg. legal / financial / family?	☐	☐
Are family concerned about the risk?*	☐	☐

If yes to any of the above, record details below:

8. Does the patient have capacity to make decisions regarding treatment and assessment?	☐ YES	☐ NO

You must only regard a patient as lacking capacity once it is clear that, having been given all appropriate help and support, they cannot understand, retain, use or weigh up the information needed to make that decision, or communicate their wishes. *Good Medical Practice 2013*

If you feel this patient does not have capacity please give details:

Summary of Assessment

Action plan

Assessment completed by: **Time:** **Date:**

Name and Signature:

Designation:

MENTAL HEALTH ORDER (ni) 1986

THE MENTAL HEALTH ORDER ONLY APPLIES TO CONDITIONS THAT ARE CAUSED BY MENTAL ILLNESS. IT DOES NOT PERMIT YOU TO DETAIN PATIENTS IN ANTRIM HOSPITAL OR TO TREAT PATIENTS WITHOUT CONSENT. IF YOU DECIDE THAT A PATIENT DOES NOT HAVE THE CAPACTIY TO CONSENT AND THAT IT IS IN HIS/HER BEST INTERESTS TO RESTRAIN AND TREAT THEM YOU ARE RELYING ON COMMON LAW.
(see GMC Publication "Seeking Patient's consent: the ethical considerations" 1998, available online at www.gmc-uk.org)

Field Code Changed

1. Use of the Mental Health Order

Mental illness is defined as a "state of mind which affects a person's thinking, perceiving, emotion or judgement to the extent that he requires care or medical treatment in his own interests or the interests of other persons."

Compulsory admission for assessment of a patient can only occur when:

1. He or she is suffering from a mental disorder of a nature or degree which warrants detention in hospital for assessment (or for assessment followed by medical treatment)

AND

2. Failure to detain the patient would create a substantial likelihood of serious physical harm to him or herself or to other persons

Criteria for likelihood of serious physical harm are evidence of one of the following:

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1. The patient has inflicted, or threatened or attempted to inflict, serious physical harm on him/herself
2. The patient's judgement is so affected that he or she is, or would soon be, unable to protect him/herself against serious physical harm and that reasonable provision for his/her protection is not available in the community or
3. The patient has behaved violently towards other persons or so behaved him or herself that other persons are placed in reasonable fear of serious physical harm to themselves

2. How to Arrange a Mental Health Assessment

Always discuss with the ED consultant first. When the patient is in the ED they are not considered admitted and therefore the "community setting" forms are to be used. A Form 1 or 2 AND a Form 3 must be completed.

a) Form One / Two

An application for compulsory admission needs to be made by either the *nearest relative* (on Form 1) OR preferably an *Approved Social Worker* (ASW) (on Form 2). The ASW can be contacted through switchboard (or Dal Doc for the number). If no ASW is available then it may be necessary for the nearest relative (guidance on who is considered to be the "nearest relative" is on the back of the Form). Please consider the implications of asking a relative to detain a family member.

b) Form Three

There must also be a *Medical Recommendation* for psychiatric assessment made on Form 3 either by the patient's GP or someone acting on behalf of the GP. Form 3 is the only Doctors' form that applies in the Emergency Department setting and when you complete it you are acting in place of the patient's GP (always try to contact the GP or OOH GP first). Note that this only applies to patients with mental illness, not organic psychosis, intoxication, drug abuse and so on.

The application is usually addressed to the Northern Trust, The Cottage, Ballymena (Holywell Hospital is part of this Trust). Your application on the form

must include the following information: the grounds (including a clinical description of the mental condition of the patient) for the opinion that the detention is warranted; the evidence for the opinion that failure to detain the patient would create a substantial likelihood of serious physical harm.
A diagnosis of the specific form of mental disorder is not required.

When a patient is detained via Mental Health Order Forms, they are legally binding documents, they cannot be disregarded. They can only be "cancelled" after an assessment by *a psychiatrist*. YOU MUST NEVER DISREGARD, TEAR UP OR LOSE A COMPLETED MENTAL HEALTH ACT APPLICATION.

c) Form Five

A Form 5 may be completed on an inpatient eg. a patient admitted to the Obs Ward, to hold the patient until formal psychiatric assessment. There does not need to be a Form 1or 2 completed.

NB: patients should NOT be admitted to the Obs ward for the sole purpose of facilitating completion of MHO forms. A Form 5 does not allow the patients to be transferred to a Mental Health Unit – use a Form 3 and 1/2 for this.

DRUG AND SOLVENT ABUSE (SEE POISONING, LEGAL ISSUES)

This may present with acute poisoning or with the consequences of chronic abuse. Children as young as 10 have presented to this department with drug related symptoms. Substance abuse is often concealed by the patient and you have to have a high index of suspicion.

Look out for the following:-

- muscle twitching & jaw spasm, tachycardia - Ecstasy
- peri-oral rash - glue sniffing
- minor psychiatric illness - any
- panic attacks/palpitations – any
- pin point pupils/marks on forearms etc - opiate

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Acute presentations of non-opiate drug abuse do not automatically require admission, even if the patient is distressed. Admit if significantly altered vital signs and/or mental state. A responsible adult must supervise discharges.

All patients who have collapsed/overdosed on Heroin or other opiates must be admitted even if apparently recovered.

Chronic Substance Misuse

The signs of **opiate withdrawal** include agitation, nausea & vomiting, diarrhoea, shivering & "goosebumps", muscle cramps and dilated pupils. Oral benzodiazepines are the sedation of choice. You should seek advice from the addiction team at Holywell hospital urgently.

Patients who do not require admission for their substance misuse may still benefit from review by the Alcohol and Substance Misuse Nurse

Have a high suspicion of atypical infections in patients with sepsis who are IV drug users. Be aware of current alerts for the Department of Health particularly when there are spikes in deaths or evidence of contaminated drugs.

Substance Misuse

Access to help with patients presenting with substance misuse problems will be through the RAID service. Phone extension 336208 with patient details and reason for referral and the team will provide a timely response or advice on how best to manage your patient.

THE VIOLENT PSYCHOTIC PATIENT

- Diffusion techniques should normally be attempted first – give patient space, "drop authority", talk quietly, listen, reassure, offer the opportunity to "go out and have a smoke" with supervision.
- Rapid Sedation is only appropriate when *necessary* for the safety of the patient or others *and when there is evidence of mental impairment* (toxic confusion or psychosis)
- Hospital *staff should not be put at risk*. Consideration should be given to obtaining urgent assistance from the police or security prior to restraining the patient for the purpose of rapid sedation.
- **The drug of choice is HALOPERIDOL 5-10mg intramuscularly. This can be treated if ineffective**
- **You must take reasonable steps to exclude a physical cause for violence/confusion – consider hypoxia, metabolic upset, CNS lesion etc**

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ALCOHOL WITHDRAWAL

Alcohol withdrawal syndrome (AWS) is a set of symptoms caused by ABRUPTLY stopping drinking after prolonged heavy consumption. Because of its affect on the brain and autonomic nervous system, it carries the risk of death or permanent neurological disability so it requires careful management. Unfortunately, most patients who are problem drinkers are difficult to assess and very difficult to manage. Their relatives and GPs are often at their wits' end, adding to the pressure on you.

Some patients who require admission for another condition develop AWS in the ward necessitating treatment–this is *secondary* detox. This section

considers *primary* detox only ie patients for whom AWS or a detox request is the presenting problem.

Medical Evidence now suggests that

- Reducing intake gradually rather than total abstinence may be more effective for many patients and it should avoid AWS
- Repeated failed detox (often requested impulsively by patients due to psychosocial pressures) is harmful to the patient leading to seizures and more severe AWS in the future
- Most patients requiring detox can be managed solely in the community
- Those patients not suitable for community management require medical admission (do not admit to the Observation Ward).

Guideline for the Community Management of AWS

- Document baseline examination for WKS: confusion?, ataxia?, opthalmoplegia?: if present admit medically
- Carry out brief intervention using FRAMES method (box below)
- Dispense maximum of chlordiazepoxide 30mg qid for two days, chlordiazepoxide 20mg tid for two days pending GP assessment
- Dispense Thiamine 100mg bd
- Advise that some sleep disturbance is inevitable during the recovery process
- Advise NOT to drink while taking chlordiazepoxide!
- Advise to see GP at first available appointment
- Advise to re-attend Emergency Department for re-assessment if becomes acutely unwell on this regime

Initial Management in the Emergency Department for Patients to be Admitted

- Chlordiazepoxide 40-60mg stat dose
- Pabrinex (1+2) x 2 doses IV
- IV fluid rehydration if necessary

FRAMES BRIEF INTERVENTION

- FEEDBACK: of your assessment of the situation
- RESPONSIBILITY is the patient's alone
- ADVICE to stop drinking
- MENU of options to help
- EMPATHY ie. Show warmth and understanding
- SELF-EFFICACY ie encourage the patient to believe that abstinence or reduction is achievable

Clinical Insitutue Withdrawal Assessment of Alcohol Scale, Revised (CIWA-Ar)

Patient:_____ Date: _____ Time: _____ (24 hour clock, midnight = 00:00)

Pulse or heart rate, taken for one minute:_____ Blood pressure:_____

NAUSEA AND VOMITING — Ask "Do you feel sick to your stomach? Have you vomited?" Observation.
0 no nausea and no vomiting
1 mild nausea with no vomiting
2
3
4 intermittent nausea with dry heaves
5
6
7 constant nausea, frequent dry heaves and vomiting

TREMOR — Arms extended and fingers spread apart. Observation.
0 no tremor
1 not visible, but can be felt fingertip to fingertip
2
3
4 moderate, with patient's arms extended
5
6
7 severe, even with arms not extended

PAROXYSMAL SWEATS — Observation.
0 no sweat visible
1 barely perceptible sweating, palms moist
2
3
4 beads of sweat obvious on forehead
5
6
7 drenching sweats

ANXIETY — Ask "Do you feel nervous?" Observation.
0 no anxiety, at ease
1 mild anxious
2
3
4 moderately anxious, or guarded, so anxiety is inferred
5
6
7 equivalent to acute panic states as seen in severe delirium or acute schizophrenic reactions

AGITATION — Observation.
0 normal activity
1 somewhat more than normal activity
2
3
4 moderately fidgety and restless
5
6
7 paces back and forth during most of the interview, or constantly thrashes about

TACTILE DISTURBANCES — Ask "Have you any itching, pins and needles sensations, any burning, any numbness, or do you feel bugs crawling on or under your skin?" Observation.
0 none
1 very mild itching, pins and needles, burning or numbness
2 mild itching, pins and needles, burning or numbness
3 moderate itching, pins and needles, burning ornumbness
4 moderately severe hallucinations
5 severe hallucinations
6 extremely severe hallucinations
7 continuous hallucinations

AUDITORY DISTURBANCES — Ask "Are you more aware of sounds around you? Are they harsh? Do they frighten you? Are you hearing anything that is disturbing to you? Are you hearing things you know are not there?" Observation.
0 not present
1 very mild harshness or ability to frighten
2 mild harshness or ability to frighten
3 moderate harshness or ability to frighten
4 moderately severe hallucinations
5 severe hallucinations
6 extremely severe hallucinations
7 continuous hallucinations

VISUAL DISTURBANCES — Ask "Does the light appear to be too bright? Is its color different? Does it hurt your eyes? Are you seeing anything that is disturbing to you? Are you seeing things you know are not there?" Observation.
0 not present
1 very mild sensitivity
2 mild sensitivity
3 moderate sensitivity
4 moderately severe hallucinations
5 severe hallucinations
6 extremely severe hallucinations
7 continuous hallucinations

HEADACHE, FULLNESS IN HEAD — Ask "Does your head feel different? Does it feel like there is a band around your head?" Do not rate for dizziness or lightheadedness. Otherwise, rate severity.
0 no present
1 very mild
2 mild
3 moderate
4 moderately severe
5 severe
6 very severe
7 extremely severe

ORIENTATION AND CLOUDING OF SENSORIUM — Ask "What day is this? Where are you? Who am I?"
0 oriented and can do serial additions
1 cannot do serial additions or is uncertain about date
2 disoriented for date by no more than 2 calendar days
3 disoriented for date by more than 2 calendar days
4 disoriented for place/or person

Total CIWA-Ar Score _____

Rater's Initials _____

Maximum Possible Score 67

Sullivan, J.T.; Sykora, K.; Schneiderman, J.; Naranjo, C.A.; and Sellers, E.M. Assessment of alcohol withdrawal: The revised Clinical Institute Withdrawal Assessment for Alcohol scale (CIWA-Ar). *British Journal of Addiction* 84:1353-1357, 1989.

Patients scoring less than 10 do not usually need additional medication for withdrawal.

ALCOHOL AND THE LAW

Not infrequently, patients with alcohol withdrawal syndrome or other alcohol-related disorder will try to leave hospital or will refuse treatment. For example, during rapid sedation of the agitated patient some level or temporary restraint is often employed. It is important for staff who treat such patients to understand both their duty of care and their legal position in relation to these issues.

Firstly, doctors should be aware that the Mental Health (NI) Order 1986 can NOT be used to detain patients with alcohol problems for compulsory assessment unless they have an intercurrent mental illness that mandates compulsory assessment

Secondly, the law presumes that all registered medical practitioners are qualified to make an assessment of a patient's capacity to consent of refuse medical treatment.

Patients with alcohol-related problems MAY have impaired capacity (see capacity checklist below) and in this event a doctor may impose restraint or treatment under the authority of Common Law providing that all the following stringent conditions apply:
-That there is the *urgent necessity* for treatment
-That the intervention is in the patient's *best interests*
-That the doctor is acting in *good faith* in line with what a responsible body of medical opinion would do in the situation

Capacity Checklist
Patient understands what the proposed treatment is and its purpose
Patient understands the main risks, benefits and alternatives
Patient understands the consequences of refusing treatment
Patient believes the information
Patient can retain the information long enough to make a judgement

If a patient has the capacity to withhold consent for treatment (this includes leaving the hospital contrary to advice), treatment MUST not be imposed on the patient irrespective of the consequences. The practice of notifying PSNI that a patient has left contrary to advice is rarely appropriate and a medical practitioner should always be involved in this decision for the reasons explained above.

ED MANAGEMENT OF SUSPECTED BODY PACKERS / BODY STUFFERS

Bodypacker *- An individual who ingests wrapped packets of illicit drugs such as cocaine, heroin, amphetamines, ecstasy or marijuana to transport them. A person who transports illicit drugs by internal concealment.*

Bodystuffer *- also known as mini-packers, are generally small scale traffickers or users who, when they come into contact with police or customs officials, immediately swallow the drug in secretly prepared wrappings in order to avoid arrest.*

The majority of these patients will be suspected Bodypackers and will be under arrest, and accompanied by UKBA (UK Border Agency) Staff. It is important to have a high index of clinical suspicion with these patients as they can abruptly become extremely unwell.

Please refer to TOXBASE "Bodypacker" for further clinical information
90% of previous admissions here have been carrying Cocaine. 10% ingested marijuana packages.

Clinical Management

- ALL SUSPECTED/ACTUAL BODYPACKERS REQUIRE ADMISSION FOR OBSERVATION (see Toxbase advice)
- Inform Consultant on-call or Registrar in Emergency Department
- Regular observations
- Imaging – plain x-ray useful, USS useful if available, CT Abdomen/Pelvis can help if equivocal plain films.
- Bowel prep will decrease transit time for packages and decrease risk to patient – Moviprep/Kleen Prep treatment to be initiated in the ED.
- Patients who do not consent to imaging/bowel prep/admission should be discussed with a senior ED Doctor
- Be aware that UKBA staff require to be present AT ALL TIMES during history / examination / imaging / admission. This is for your own safety.
- Admission should be to the Obs Ward

THE UNCONSCIOUS PATIENT

- Assess and treat ABC
- Measure temperature and test glucose with BM stick (treat hyperpyrexia or hypoglycaemia immediately)
- Get as much information as possible (from ambulance crew, relatives, old notes etc.)
- Do a full clinical assessment (including fundoscopy, search for injuries/rashes and neurological exam.)
- Assess depth of coma using Glasgow Coma Scale. Involve anaesthetist if GCS<11 and inform senior ED doctor.
- Causes to consider:

1. **Brain**:	Head injury
	CVA
	Fits
	Meningitis/ encephalitis
2. **Outside brain**	Hypoglycaemia
	DKA
	Other metabolic
	Renal failure
	Hepatic failure
	Respiratory failure
	Cardiac failure
3. **Outside body**	Drugs (especially Ecstasy if hyperpyrexic)
	Alcohol
	Carbon monoxide poisoning
4. **Environment**	Hypothermia
	Hysteria

- If no diagnosis after clinical examination, blood tests and x-rays, or if focal neurology consider urgent CT scan

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Pupils

Pupil size and reactivity	Cause
Small reactive pupils	Metabolic disorders
	Medullary lesion
Pinpoint pupils	Metabolic disorders
	Narcotic/organophosphate ingestions
Fixed midsize pupils	Midbrain lesion
Fixed dilated pupils	Hypothermia
	Severe hypoxia
	Barbiturates (late sign)
	During and post seizure
	Anticholinergic drugs
Unilateral dilated pupil	Rapidly expanding ipsilateral lesion
	Tentorial herniation
	Third nerve lesion
	Epileptic seizures

Signs of Raised ICP

1. Abnormal oculocephalic reflexes (avoid in head injury)
   - When head is turned to left or right a normal response is for eyes to move away from the head movement; an abnormal response is no or random movement
   - When the head is flexed, a normal response is deviation of the eyes upwar; a loss of conjugate upward gaze is a sign suggestive of raised ICP

2. Abnormal posturing
   - Decorticate (flexed arms, extended legs)
   - Decerebrate (extended arms. Extended legs)

3. Abnormal pupillary responses
   - Unilateral or bilateral dilation suggests raised ICP

4. Abnormal breathing patterns
   - Cheyne-Stokes
   - Apnoea

5. Cushings triad:
   - Slow pulse
   - Raised BP
   - Abnormal breathing pattern

STATUS EPILEPTICUS

Ask for senior advice

- ABC + oxygen by NRRM
- Check blood glucose
- IV diazepam up to 10 mg slowly iv
- Phenytoin 15mg/kg by iv infusion (unless patient is on this already) (max 1g)
- Consider 'Pabrinex' slow iv if history/suspicion of chronic alcohol excess

- Seek anaesthetic help
- Consider paraldehyde
- Consider phenobarbitone

Seek an underlying cause especially:

- Focal neurology – CT
- Injury – CT
- Fever or sepsis – consider acyclovir + cefotaxime
- Poisoning – try to get more history

One of the commonest causes of non-responding status is pseudoseizures – this diagnosis should only be considered by a very experienced doctor – seek help

FITS, FAINTS AND FUNNY TURNS (SEE STATUS EPILEPTICUS, STROKE, TIA AND TLOC)

Many will require outpatient investigation but few require admission, although patients who live alone should not be discharged alone; family help or a care package should be sought. Although alarming for patients, carers and doctors, most have a benign prognosis.

"Funny turn" describes an ill-defined episode of impaired consciousness from which the patient has more or less recovered by the time they reach Emergency Department. This is an extremely common presentation to Emergency Department so you must develop a good system for rapidly evaluating these patients. The cause for the funny turn is usually cardiovascular or neurological. A meticulous history including an eyewitness account is the single most important aid to diagnosis. What was the patient doing just before the attack? Ascertain whether or not consciousness was lost. If it was, rapid recovery suggests CVS cause while more gradual

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recovery suggests NS. Was there injury, tongue biting or incontinence? Is there a history or family history of heart disease or epilepsy?

(Contrary to popular belief, TIA is an uncommon cause for transient loss of consciousness.)

A full history is imperative to include pre-morbid history, prodromal symptoms, length of time unconscious, degree of amnesia and confusion on recovery.

- A neurological cause, for example, epilepsy, SAH, can often be identified by the history, examination and the appropriate referral made.
- 50% of all cases have a cardiac cause and again, these can be determined by history, examination and ECG. Investigate and treat accordingly.

The remaining cases can be classified under five categories

1. Simple Faint
Definite provocational factors with associated prodromal symptoms and which are unlikely to occur whilst sitting or lying. Benign in nature.
These patients can often be discharged home from the ED without follow-up.

If recurrent, will need to check the 3 “Ps”apply on each occasion
Provocation Prodrome Postural
(If not see Number 3 below).

2. Loss of consciousness/ loss of or altered awareness likely to be unexplained syncope and low risk of re-occurrence
These have no relevant abnormality on CVS and neurological examination and normal ECG.
Consider the TLOC guidelines

3. Loss of consciousness/ loss of or altered awareness likely to be unexplained syncope and high risk of re-occurrence
Factors indicating high risk:
(a) abnormal ECG
(b) clinical evidence of structural heart disease
(c) syncope causing injury, occurring at the wheel or whilst sitting or lying
(d) more than one episode in previous six months.
These patients usually need admitted under cardiology team, especially if first occurrence. Further investigations such as ambulatory ECG (48hrs), echocardiography and exercise testing may be indicated after specialist opinion has been sought.

4. Presumed loss of consciousness/loss of or altered awareness with seizure markers

The category is for those where there is a strong clinical suspicion of epilepsy but no definite evidence.

The seizure markers act as indicators and are not absolutes

a) unconsciousness for more than 5 mins.
b) amnesia greater than 5 mins
c) injury
d) tongue biting
e) incontinence
f) remain conscious but with confused behaviour
g) headache post attack

For patients presenting with first (possible) seizure consider Observation Ward pathway, if multiple episodes admit under medical team. Discharged patients should be referred to neurology OPD if not already under their care.

5. Loss of consciousness/loss of or altered awareness with no clinical pointers

This category will have had appropriate neurology and cardiac opinion and investigations but with no abnormality detected. These patients should be admitted under appropriate team as clinically indicated.

All patients should have:

- Their medication list scrutinised (check ECR)
- Thorough CVS examination including erect & supine BP (wait 1 min and 3 mins to check erect BP) and auscultation of the neck.
- Thorough NS examination including fundoscopy
- An ECG – any arrhythmia or a QTc > 460mseconds is an indication for cardiac referral.

The term "**Faint**" should be reserved for a vasovagal episode, usually in younger patients. It is usually preceded by nausea, vomiting, and sweating and often relates to some kind of situational stress. Some patients who faint will have a very brief convulsion especially if not allowed to lie flat.

A "**Drop Attack**" is a sudden falling to ground without loss of consciousness. Usually caused by a balance problem or postural hypotension.

A **seizure** may be 'generalised' or 'partial' (+/- complex). A change to fit pattern usually merits admission to the medical ward. Beware of the post-ictal patient who has not fully recovered - always observe for a while and mobilise prior to discharge. Don't forget to exclude injury - skull fracture and dislocated shoulder are the commonest.

HEADACHES (SEE MENINGOCOCCAL DISEASE)

Be careful of this presentation to Emergency Department. All patients (including those who have had a CT scan) should be reviewed by GP if not admitted. Temp, fundoscopy and BP are always mandatory.

Red flag symptoms

- Worst ever headache
- Sudden onset - maximum intensity within one hour
- Prolonged headache
- Vomiting more than once
- Fainting/collapse
- New neurological deficit
- New cognitive dysfunction
- Headache with pyrexia

These 'Red Flag' symptoms are very significant – CT Scan is usually required.

Don't miss:

- Sub-arachnoid haemorrhage (usually sudden onset; reaches maximum intensity within 60 mins)
- Meningitis (fever and/or rash)
- Encephalitis (fever, ataxia, drowsiness/confusion)
- Raised ICP (CNS signs or papilloedema, typical symptoms)
- Temporal arteritis (older patients -check ESR if age >60)
- Acute closed angle glaucoma (headache, red eye, visual disturbance, nausea)

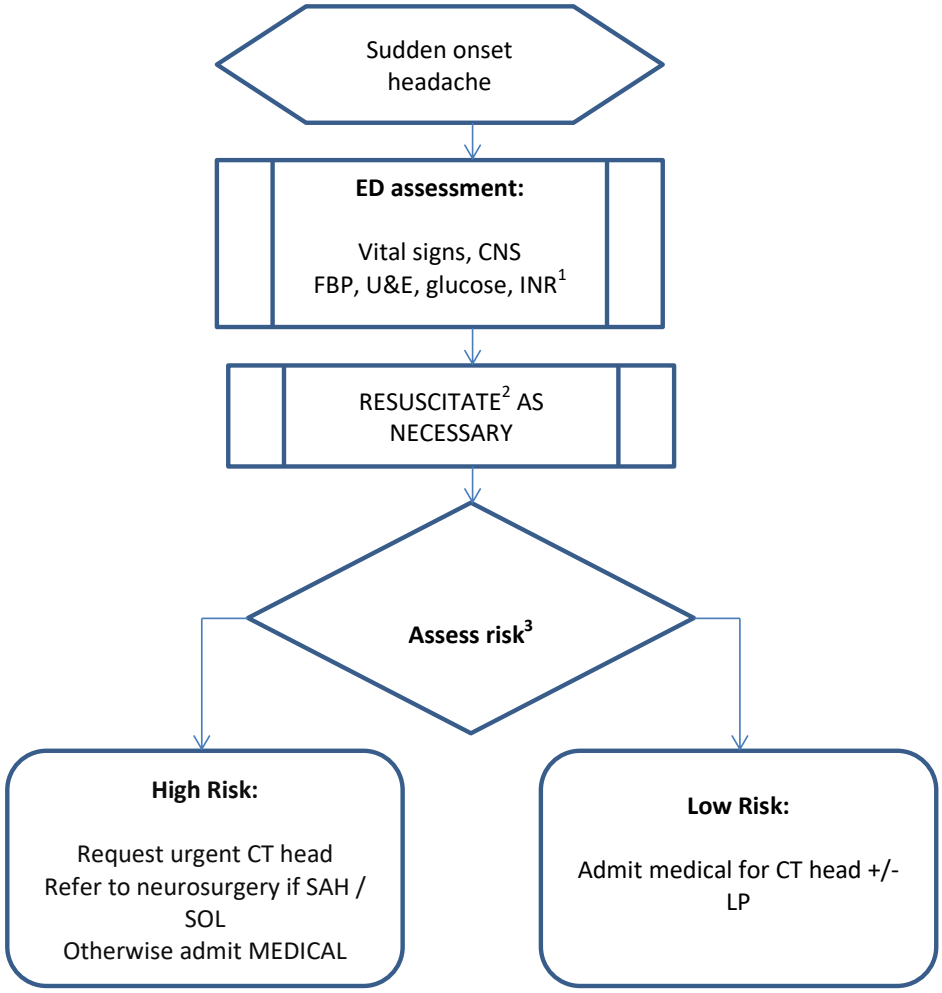
Common causes are migraine, neck problems and "tension". If a patient has symptoms suggesting **migraine** and there are no contra-indications, use "Imigran" subcutaneously and re-evaluate after 30 mins. Alternatively a combination of IV fluids, high flow oxygen, aspirin 900mg PO, chlorphenamine 10mg IV and antiemetic can be useful. Todd's paresis is a senior clinician diagnosis.

For patients with **cluster headaches** (severe migraine-type headaches with nasal stuffiness and lacrimation that come in "clusters" lasting several days) 100% oxygen via NRRM may produce a dramatic improvement.

A normal CT scan does not rule out sub-arachnoid haemorrhage and sensitivity decreases with time – Day 1 95% sensitivity, day 7 50% sensitivity.

If sub-**arachnoid haemorrhage** is the working diagnosis then the patient will need to be admitted medically for lumbar puncture.

Sudden Onset Headache Pathway



1. INR if on warfarin – reverse as per protocol
2. Intubate if airway compromise / inadequate respiration / GCS ≤ 8
3. High risk: GCS < 15 / persistent vomiting / previous SAH / fits / meningism / focal
4. neurological signs / warfarin / DETERIORATION

STROKE

- *Consider all patients who present within 3.5 hours from onset of stroke symptoms for lysis*

1. Hyperacute Stroke

There is now good evidence that emergency lysis of hyperacute THROMBOTIC stroke within 3.5 hours of onset of attack is of significant benefit to SELECTED patients.
This makes assessment of suspected acute stroke a top priority medical emergency.

The steps below should be taken SIMULTANEOUSLY as far as possible:

Emergency Management of Suspected Hyperacute Stroke

- Pre- alert the stroke team (bleep 6000) if standby call or alert if Rosier positive (see below)
- Resuscitation (ABC including 100% 02 and iv fluids, urinary catheter. Urgent Coag, FBP and U&E)
- Consider and correct reversible causes eg. hypoglycaemia that may be mimicking a stroke
- Identify cause of stroke ie Ischaemic or Haemorrhagic? (emergency CT scan phone ROD – ask about warfarin, heparin and bleeding disorders)

a) Stroke Team

- Contact via fast bleep 6000 and ask for stroke lysis team (24 hours a day)
- In hours this is service is provided by a dedicated stroke team.
- Out of hours this will initially be the Medical SPR who will liaise with the on-call stroke consultant
- The stroke team will determine appropriateness of lysis

b) Rosier Score

1. Has there been loss of consciousness of syncope? Y(-1)
   N(0)

2. Has there been seizure activity? Y(-1)
   N(0)

Is there is a NEW ACUTE onset (or on awakening from sleep)

i. Asymmetric facial weakness Y(+1)
   N(0)
ii. Asymmetric arm weakness Y(+1)
   N(0)
iii. Asymmetric leg weakness Y(+1)
   N(0)
iv. Speech disturbance Y(+1)
   N(0)
v. Visual field defect Y(+1)
   N(0)

*Total score _____ (-2 to +5)

If score is +1 or above assess suitability for Thrombolysis and complete the assessment overleaf.

NB Stroke is unlikely but not completely excluded if total scores are below 0.

c) Stroke Lysis

Consent should be gained by the stroke team and lysis given by the stroke team.The dose of rt-PA (alteplase) for acute stroke is 0.9mg/kg, maximum 90mg. 10% of the dose is given by iv bolus injection and the remainder by iv infusion over 60 minutes. See BNF – not recommended for patients aged 80 and over.

e) After care

Patients require close observation and nursing and continuous monitoring following lysis. They should be moved to an appropriate bed in CCU as soon as possible. If any deterioration contact the stroke team/medical reg.

2. Other stroke patients

Even if they are not eligible for lysis, stroke patient will benefit from the other evidence based interventions

- iv fluids/Fluid Balance Chart and nil orally until swallowing has been assessed
- temperature regulation- paracetamol if temp>37.5
- blood glucose regulation- sliding scale insulin
- blood pressure control- over next 24hrs (*not acutely)*
- early admission to a Stroke Unit

When to order an urgent CT scan?

- Diagnosis in doubt
- Suspected SAH
- Suspected hydrocephalus 2^0 to CVA
- On warfarin or heparin (or coagulopathy)
- Acutely deteriorating
- >48 hours since onset

TRANSIENT ISCHAEMIC ATTACK

Like stroke, TIA is the result of carotid- or vertebro-basilar territory ischaemia. It is common in older patients but it can occasionally occur in the young, usually due to an undiagnosed cardiac lesion or thrombophilia. Migraine or Todd's paresis can mimic stroke but this is a diagnosis for a senior clinician only.

TIA is abrupt in onset, focal and completely resolved within 24hours. The signs fall within a vascular territory such that there are negative symptoms i.e. something is absent. Between 9-5 the stroke nurse may be able to assess same day, on the direct assessment unit.

Patients who have persistent neurology and signs, new AF or cardiac murmurs, significant hypertension or are high risk should be admitted.

a) Risk Assessment 'ABCD2 score'

Indicator	2	1	0
Age	-	> 60 yrs	-
BP	-	SBP >140 or DBP >90	-
Clinical features	Unilateral weakness	Speech disturbance alone	other

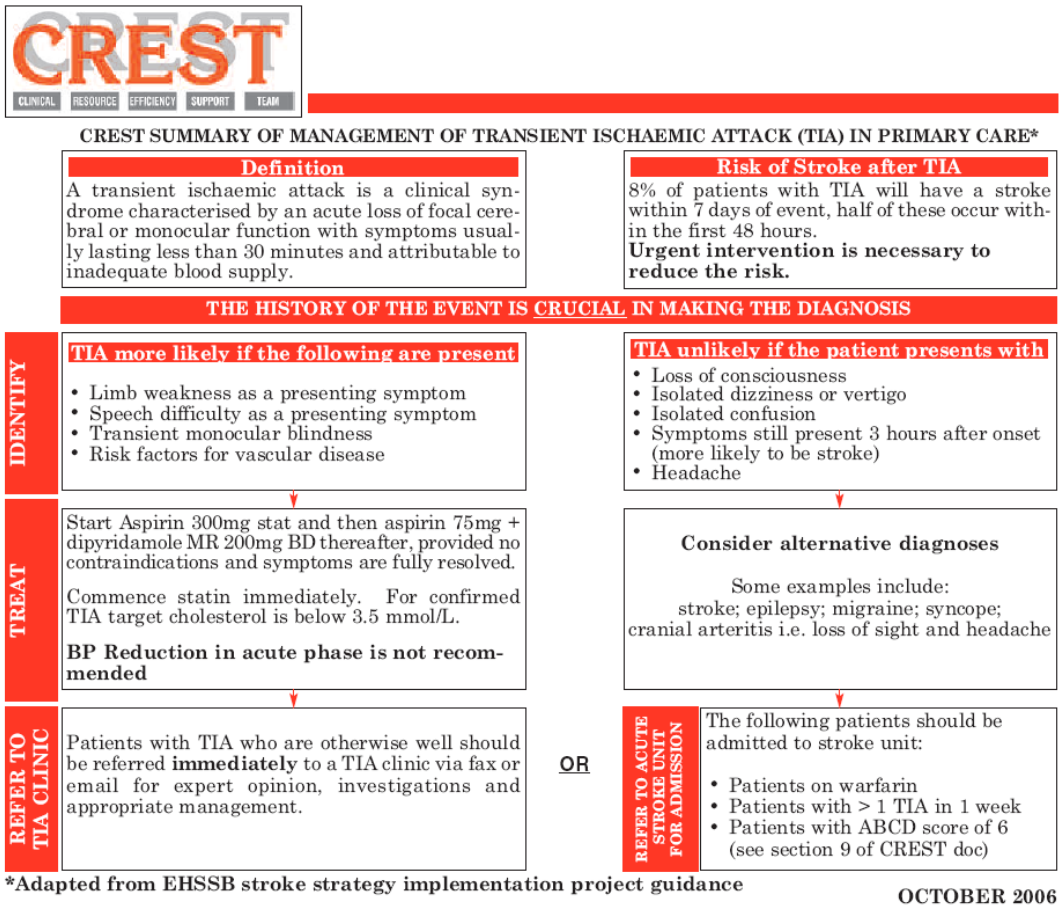
Duration	> 60 mins	10 – 59 mins	< 10 mins
Diabetes	-	Present	-

b) Admission

- ABCD2 score greater than 6 or if weekend
- Patients who still have symptoms
- Patients who have had a number of resolving TIA's in the days prior should be CT scanned and admitted.
- Patients on Warfarin should be admitted.

c) TIA Clinic

If Monday-Friday the patient may be seen directly contact stroke staff grade who may arrange to see on DAU. Otherwise refer to TIA clinic.
Commence ASPIRIN and STATIN
Advise the patient they are NOT allowed to drive until seen in clinic (and document in notes)



CANCER PATIENTS & CHEMOTHERAPY

All patients who develop illness post chemotherapy should be directly admitted to either a medical or surgical ward; they should not come through the Emergency Department UNLESS REQUIRING RESUSCITATION

The commonest oncologic emergencies are:-

- *Neutropenic-induced sepsis* –GUIDELINE ON FOLLOWING PAGE
- *Hypercalcaemia* – rehydration with iv saline and administration of iv Frusemide.
- *Renal failure* –check U&E, ECG, renal consult.
- *Cardiac or GI toxicity post chemo*– treat according to presentation.
- *SVC obstruction* (presenting with upper airway obstruction, jugular venous distention, dilated veins in the upper body, cyanosis, cough, chest pain) – emergency oncology consult re DXRT.
- *Spinal cord compression* – emergency oncology consult who will guide you to the next appropriate steps

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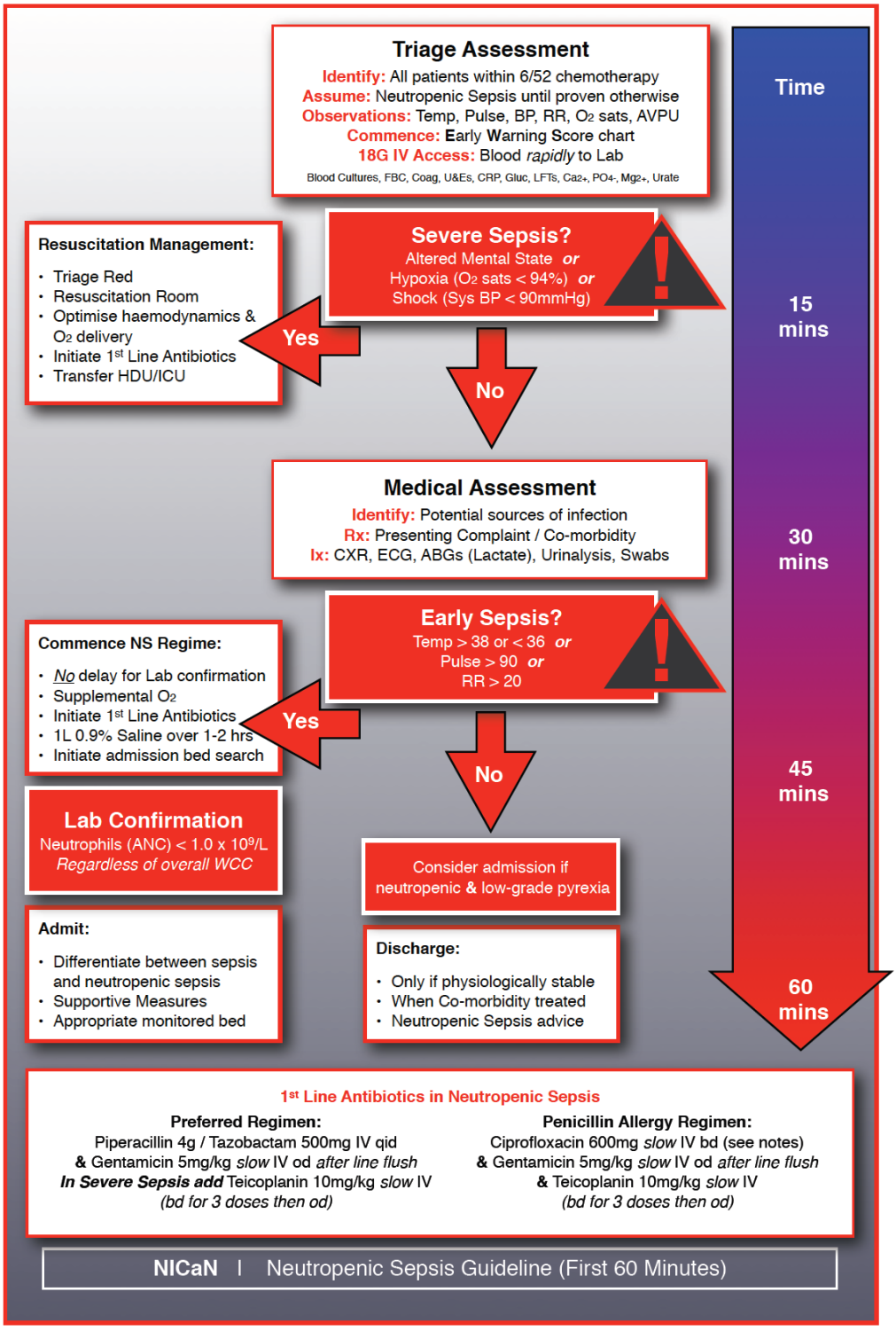
The regional handout on management of common post -chemotherapy symptoms is available in the computer room. You can also ask for advice from the oncology trainee-on call in Belfast City Hospital or from the on-call Emergency Department consultant. Some patients are transferred direct to BCH following consultation with them.


Triage Assessment
Identify: All patients within 6/52 chemotherapy
Assume: Neutropenic Sepsis until proven otherwise
Observations: Temp, Pulse, BP, RR, O2 sats, AVPU
Commence: Early Warning Score chart
18G IV Access: Blood rapidly to Lab
Blood Cultures, FBC, Coag, U&Es, CRP, Gluc, LFTs, Ca2+, PO4-, Mg2+, Urate
Time
Resuscitation Management:
• Triage Red
• Resuscitation Room
• Optimise haemodynamics & O2 delivery
• Initiate 1st Line Antibiotics
• Transfer HDU/ICU
Severe Sepsis?
Altered Mental State or
Hypoxia (O2 sats < 94%) or
Shock (Sys BP < 90mmHg)
Yes
No
15 mins
Medical Assessment
Identify: Potential sources of infection
Rx: Presenting Complaint / Co-morbidity
Ix: CXR, ECG, ABGs (Lactate), Urinalysis, Swabs
30 mins
Commence NS Regime:
• No delay for Lab confirmation
• Supplemental O2
• Initiate 1st Line Antibiotics
• 1L 0.9% Saline over 1-2 hrs
• Initiate admission bed search
Early Sepsis?
Temp > 38 or < 36 or
Pulse > 90 or
RR > 20
Yes
No
45 mins
Lab Confirmation
Neutrophils (ANC) < 1.0 x 10⁹/L
Regardless of overall WCC
Consider admission if neutropenic & low-grade pyrexia
Admit:
• Differentiate between sepsis and neutropenic sepsis
• Supportive Measures
• Appropriate monitored bed
Discharge:
• Only if physiologically stable
• When Co-morbidity treated
• Neutropenic Sepsis advice
60 mins
1st Line Antibiotics in Neutropenic Sepsis
Preferred Regimen:
Piperacillin 4g / Tazobactam 500mg IV qid
& Gentamicin 5mg/kg slow IV od after line flush
In Severe Sepsis add Teicoplanin 10mg/kg slow IV
(bd for 3 doses then od)
Penicillin Allergy Regimen:
Ciprofloxacin 600mg slow IV bd (see notes)
& Gentamicin 5mg/kg slow IV od after line flush
& Teicoplanin 10mg/kg slow IV
(bd for 3 doses then od)
NICaN | Neutropenic Sepsis Guideline (First 60 Minutes)

METASTATIC SPINAL CORD COMPRESSION

For patients with known history of cancer contact oncology registrar 02890329241 in the Cancer Centre

For patients with no known history of cancer, for a surgical opinion phone Fracture Clinic 02890632925 / 08290633133 and ask for ortho SHO

Assessment

1. History:
   - Malignancy
   - Time of onset of symptoms
2. Examination:
   - Walking – normal / unsteady / non-ambulant
   - Incontinence – urinary / faecal
   - Sensory level
   - Motor deficit
   - Able to lift leg off bed – right / left
3. Spinal instability – markers of potential spinal instability include:
   - Severe pain at site of lesion
   - Worsening neurology
   - > 50% collapse of vertebral body
   - Destruction of odontoid process

Management

1. Bed rest and log roll all patients in the ED with possible or confirmed MSCC
2. Contact oncology SPR / fracture SHO as appropriate (see above for details)
3. Admit under medical team if out of hours

PALLIATIVE CARE

You can obtain help with any aspect of a complex palliative care problem by calling the out-of-hours on-call Consultant in Palliative Medicine (24/7 via switchboard) or by bleeping the Macmillan nurses who are available 9am to 5pm Mon-Fri.

Guidance on the management of breakthrough symptoms in the terminally ill patient
FIRST EXCLUDE A TREATABLE CAUSE (see previous page)!
All are given by subcutaneous injection unless otherwise stated.

DRUG	DOSE	SYMPTOMS
Diamorphine	*On diamorphine*:1/6 of total 24hr dose (max: 25mg) *On morphine*:1/18 of total 24hr dose (max: 25mg) *On fentanyl patch*: (patch dose)/ 5 mg = dose of diamorphine (max 25mg) Not on an opiate: 5-10mg	Pain
	2.5-5mg	Breathlessness
Midazolam	2.5-5mg 5-10mg 5-20mg 5-20mg (iv titrate) 30mg/24hrs (sc infusion)	Breathlessness + anxiety Myoclonic jerks Terminal agitation Severe haemorrhage Seizures
Diazepam	10mg (rectal)	Seizures
Haloperidol Cyclizine Metoclopramide Levomepromazine	1-2.5mg 50mg 10-20mg 12.5-25mg	Nausea/vomiting
Hyoscine	0.4-0.6mg	“Death rattle”

POISONING (SEE ALSO DELIBERATE SELF HARM, LEGAL ISSUES)

- ***Always*** *check Toxbase for the most up to date information in managing specific poisonings.*

  User name: **H157**
  Password: **88WMEG**

- *Many common poisons can be screened for by the Lab – be specific in your request.*

General Management

- Activated charcoal should be given to patients presenting within 1 hour of ingesting drugs unless unable to protect their airway (eg. decreased GCS) or drugs not affected by charcoal (petroleum distillates, corrosive substances, alcohol, malathion, heavy metals)
- Toxbase printout for every patient
- Bloods and ECG as per Toxbase guideline
- Consider context: industrial hazard vs accidential vs deliberate and manage accordingly

Paracetamol

- Paracetamol poisoning has a significant mortality and morbidity.
- Check levels at 4 hours (or on presentation if after this)
- Treat according to graph in BNF or Toxbase – note: there has been a change in recent years and there is no longer a distinction between high or low risk patients, the treatment line has been adjusted to account for this.
- If patients present after 8 hours with a significant paracetamol overdose or after a staggered overdose should have acetylcysteine commenced immediately while waiting on blood results.
- Acetylsyteine dose is dependent on patient's weight and is prescribed in mls of solution to avoid prescription errors.
- These patients should be admitted to the Obs ward for treatment unless there is evidence of liver damage clinically or on bloods in which case admit medically.

Cyanide

Cyanide is produced in a local factory and may also contaminate ships' cargoes etc. Cyanide poisoning presents with agitation, headache, coma, pulmonary oedema, arrhythmias and shock. There is no time to lose. Use the Cyanide treatment kit that is kept in resuscitation, starting with inhaled amyl nitrate to buy a few extra moments – Get senior help AT ONCE. Consider in cardiac arrest following smoke inhalation.

Opiates, there are new synthetic heroin type drugs on the market which are much stronger than previous derivatives and require industrial doses of naloxone for reversal. Please be aware of this when treating patients with suspected opiate overdose.

An exhaustive list of poisons management is beyond the scope of this book – this is available to you on Toxbase (www.toxbase.org)

IMMEDIATELY LIFE-THREATENING POISONS

Life-threatening Ecstasy Poisoning presents with hyperpyrexia(>39) and collapse. Be vigilant about this diagnosis – there will often be muscle rigidity and hyper-reflexia as well. Get Consultant/senior anaesthetic help immediately. Start vigorous cooling measures immediately.

DIABETIC PATIENTS

1. DKA and HONK

- *These notes are from the Trust Adult DKA and HONK protocol - use the Intranet and follow the TRUST PROTOCOL (this is a treatment pathway and prescription)*
- *Patients under 18 years MUST be treated using the Paediatric DKA guidelines*

Diagnostic Criteria

Diabetic Ketoacidosis	Hyperosmolar non-ketotic state
• Venous bicarbonate <15 mmol/L * (bicarbonate can be requested on U&E form) • Urine ketones ++ or more	• Serum osmolality >350 mosmol (2 [sodium+potassium] + blood glucose) • Venous bicarbonate >15 mmol/L

* measure arterial blood gasses if patient has reduced conscious level or respiratory distress.	• Urine ketones + or less

Early management – intravenous infusion fluids / potassium / insulin

Infusion fluids (prescribe on fluid balance chart)

- Give 1 litre sodium chloride 0.9% immediately during the first hour.
- If hypotension dose not respond to sodium chloride 0.9%, give a plasma expander.
- Rate of fluids thereafter depends on age / fitness / dehydration of patient, consider central venous pressure line,
  Rate typically: 1 litre over next hour
  2 litres over next 2-4 hours
  then 1 litre 4-6 hourly
- Reduce rate in elderly/cardiac disease/mild DKA (bicarbonate >10). More rapid infusion increases risk of pulmonary oedema.
- Switch to glucose 5% 1 litre 8 hourly once blood glucose <15 mmol/L. Continue simultaneous sodium chloride 0.9% if still volume depleted.
- If serum sodium rises above 155 mmol/L, switch to sodium chloride 0.45% (of glucose 5% if blood glucose <15).

Potassium (prescribe on fluid balance chart)

- Serum potassium is often normal or high initially but total body potassium is low.
- Anticipate fall in potassium and replace by switching infusion fluid to a potassium containing infusion, once first plasma potassium result is known.
- Administer potassium containing infusion as follows:
  - Serum potassium >5.5mmol/L: no additional potassium required, check in 2 hours
  - Serum potassium 4-4.5mmol/L: 20mmol potassium in each litre of infusion fluid
  - Serum potassium <4mmol/L: 40mmol potassium in each litre of infusion fluid

Insulin

- Insulin must be referenced on the main Kardex by prescribing Actrapid infusion ‘as per chart’.
- Commence soluble insulin infusion (50 units/50 ml) via syringe driver, starting at 6 units/hour.
- Measure capillary blood glucose hourly using blood glucose meter. Once glucose <16, adjust insulin infusion rate according to algorithm overleaf.
- Check laboratory venous blood glucose result at 2 hours. If blood glucose

has not fallen, check pump working and intravenous connections secure, then increase insulin infusion to 10 units/hour. Discontinue previous column and prescribe alternative algorithm.

Other measures

- Consider urinary catheter if no urine passed after 2 hours or incontinent.
- Consider nasogastric tube and aspiration if patient not responded to commands (NDB protect airway, discuss with ICU).
- Prescribe thromboprophylaxis on Kardex unless contraindicated.
- Screen for infection and other precipitating factors.
- Continue intravenous insulin and fluids until acidosis reversed and patient ready to eat and drink. Discontinue intravenous insulin and then re-start subcutaneous insulin according to guidelines.
- Long acting analogue insulin should not be omitted.

Intravenous bicarbonate

- In most cases administration of intravenous bicarbonate is not helpful and is potentially dangerous.
- Only consider if pH <6.9 and poor response to fluid resuscitation; refer to ICU.

Intravenous insulin infusion

Capillary blood glucose (mmol/L)	Standard insulin infusion rate (units/hr)
>16	6
12.1 – 16	4
10.1 – 12	3
7.1 – 10	2
4 – 7	1
<4	0.5

Administration and monitoring record

- Start recording at the start time of the infusion. Protocol chart is valid from 9am until 9am the following day.
- Measure capillary blood glucose every hour. Capillary blood glucose results must also be recorded on the observation chart.
- Measure U&E, pH and venous bicarbonate at 2 hours, then 2-4 hourly until bicarbonate >15

Don't forget that DKA may present as a hyperventilation attack or abdominal pain in adults or children with no history of Diabetes.

2. Hyperglycaemia without impaired consciousness

Patients (either newly or previously diagnosed DM) who present with hyperglycaemia +/- symptoms but with normal level of consciousness and no acidosis do not have DKA or HONK! They do not require admission unless there is an intercurrent illness or some specific problem with diabetic control. They should be booked into next diabetic clinic (within one week). Review and manage their insulin therapy before discharge – seek help if necessary.

3. Hypoglycaemia

Nowadays most cases come by ambulance and will have received im Glucagon that usually works within 15 mins (if you are sending bloods tell lab that Glucagon has been given!). If the patient presents in coma/unable to take glucose by mouth give 50mls of 50% dextrose (5ml/kg of 10% dextrose for children). Can be discharged if able to eat and social support. Consider cause and give advice or review and manage their insulin therapy.

Special pitfalls for diabetic patients

- All diabetic patients with foot wounds or minor sepsis must be reviewed at treatment room or ARC. High risk of osteomyelitis. Consider immediate / early referral to podiatrist.
- Remember silent myocardial infarction – check ecg in diabetic patients with non-specific illness
- All diabetic patients with acute abdominal pain should be admitt

EAR CONDITIONS

- **Foreign body in child's ear -**
  It's tempting to try but only remove if visible and child co-operative. Check TM afterwards.

- **Otitis externa**
  Often requires strong analgesia
  Insert pope ear wick for 24-48hrs
  Antibiotic/steroid drops e.g. Betnesol-N for 7 days only (risk of ototoxicity if use prolonged in presence of TM perforation).
  Refer severe cases to ENT for aural toilet.
  Review by GP.

- **Otitis media**
  Strong analgesia.
  Oral antibiotics (see protocol).
  Always review by GP to ensure resolution.

- **Traumatic TM perforation**
  Keep ear dry.
  No antibiotics required.
  GP to arrange ENT review within a few weeks.

BELLS PALSY

i.e., idiopathic LMN VIIth (facial) nerve palsy involving entire half of face

Examination:

- Exclude other cranial nerve involvement.
- Examine throat and ear for herpetic vesicles or middle ear infection.
- Examine for serious underlying pathology eg. Lyme disease, parotid tumour

Treatment:

- Prednisolone 40mg daily and 5 day course of oral Acyclovir
- Eye protection with artificial tears or Lacrilube gel and eye patch at night (if unable to close eye).
- Discuss with ENT doctor for review in 3-5 days and
- 80-90% full recovery expected for uncomplicated Bell's.
- Refer to ENT clinic for review in 5-6 weeks (this can be arranged by ED reception staff)

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NASAL CONDITIONS

Displaced nasal fractures

- Clinical diagnosis – X-rays not indicated
- Refer to ENT clinic by giving appointment card marked "ENT appointment in 5-7 days" to the patient and send them to the ED reception.
- Look for septal haematoma and refer urgently if present.

Epistaxis

- Pack nose lightly with 4% Lignocaine/Adrenaline (bottle in fridge) on ribbon gauze for 5-10 mins.
- Remove pack and examine nose; if bleeding point seen, apply silver nitrate cautery stick 10-15 secs to that area.

- **Children (anterior bleeds more common)**
  Children with recurrent minor nose bleeds often respond to a 7 day course of antibiotic cream, e.g., Naseptin.

- **Elderly patients (posterior bleeds more common)**
  Those on Warfarin/Aspirin and those with prolonged or recurrent bleeds, require definitive treatment, i.e., cautery. Check BP, FBP and INR when indicated.

Refer to ENT on-call (not clinic) as necessary.

THROAT CONDITIONS

Partial upper airway obstruction (stridor). DON'T TOUCH! Notify both anaesthetist and ENT. (Simple Croup is an exception – give a 'Pulmicort' nebule and refer to paediatrics).

Patients with quinsy have severe pain, trouble with swallowing or opening mouth. Give im Voltarol and contact ENT.

Tonsillitis – see antibiotic protocol, may benefit from steroids +/- Obs ward admission.

FB in throat. Check back of throat for visible FB. X-ray for opaque FB. If clinical suspicion or positive x-ray, speak to ENT.

Bleeding post-tonsillectomy -Resuscitate and refer to ENT for ADMISSION
IV antibiotic, e.g., Co-Amoxiclav.
Do not remove clot in tonsil bed!

Ludwigs angina- bilateral cellulitis of the submadibular space. Painful oedema progressing to trismus, dysphagia, drooling and subsequent airway obstruction. Treatment requires Analgesia, Antibiotics (high dose) and Airway Assessment if severe. ADMIT.

Children who swallow coins etc. Do Chest and neck x-ray. If coin (or other inert FB) above diaphragm speak to ENT. If coin below diaphragm, reassure and discharge. No review unless abdominal symptoms (rare). Patients who have ingested batteries or other corrosive items should be referred urgently.

- Always check visual acuity
- Apply amethocaine 1% drops for corneal discomfort
- Slit lamp examination for all suspected corneal problems
- Examine using opthalmoscope any patients with visual disturbace
- X-ray of orbits for all patients with a history of potential penetrating intra-ocular (small FB striking eye at high velocity). NB: steel striking steel (eg. hammer and chisel) is particularly hazardous.

EYE PROBLEMS

Patients requiring immediate ophthalmic assessment

- Significant visual loss
- Severe eye pain
- Penetrating ocular trauma and lid lacerations
- Post-operative red or painful eye

These patients should be referred to the ophthalmology SHO on-call or eye casualty in RVH **Phone 90634706**

Patients requiring early (within 24 hrs) referral to the Eyes Clinic:

- Iritis (pain, photophobia, circumcorneal red eye, cloudy cornea)
- Retinal detachment (flashes, curtains, post-traumatic visual upset)
- Hyphaema
- Dendritic ulcers (pain, photophobia, staining lesion on cornea)
- Alkali chemical burns

Contact RVH ophthalmology SHO for appointment in Eye Casualty

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Conditions suitable for ED management:

- Corneal foreign body (remove with cotton bud or orange needle, don't forget to evert upper lid)
- Conjunctivitis (chloromycetin ointment four times daily for five days)
- Corneal abrasion including abrasions caused by foreign body removal (cyclopentolate, chloramphenicol and voltarol drops applied stat, then eye pad)
- Non-alkali Chemical burn (check pH, irrigate immediately with several litres of normal saline until pH returns to neutral, remembering to evert upper lid. Refer to ophthalmology SHO if unable to normalise pH
- Welder's flash (amethocaine 1%, cyclopentolate and voltarol drops, chloromycetin, double eye pad and bandage)

Conditions that should be reviewed at the Emergency Department:

- Corneal abrasion causing reduced visual acuity (5 days)
- Rust ring if over the pupil (5 days)
- Non-alkali chemical burn (next day)
- Welder's flash if not settling

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INFECTIOUS DISEASES

Antimicrobial Treatment

This Trust operates Antimicrobial cycling. Please refer to the Empirial Antimicrobial Guidelines for hospitalised adults. It does not apply to oral medication or patients discharged from the ED.

Isolation

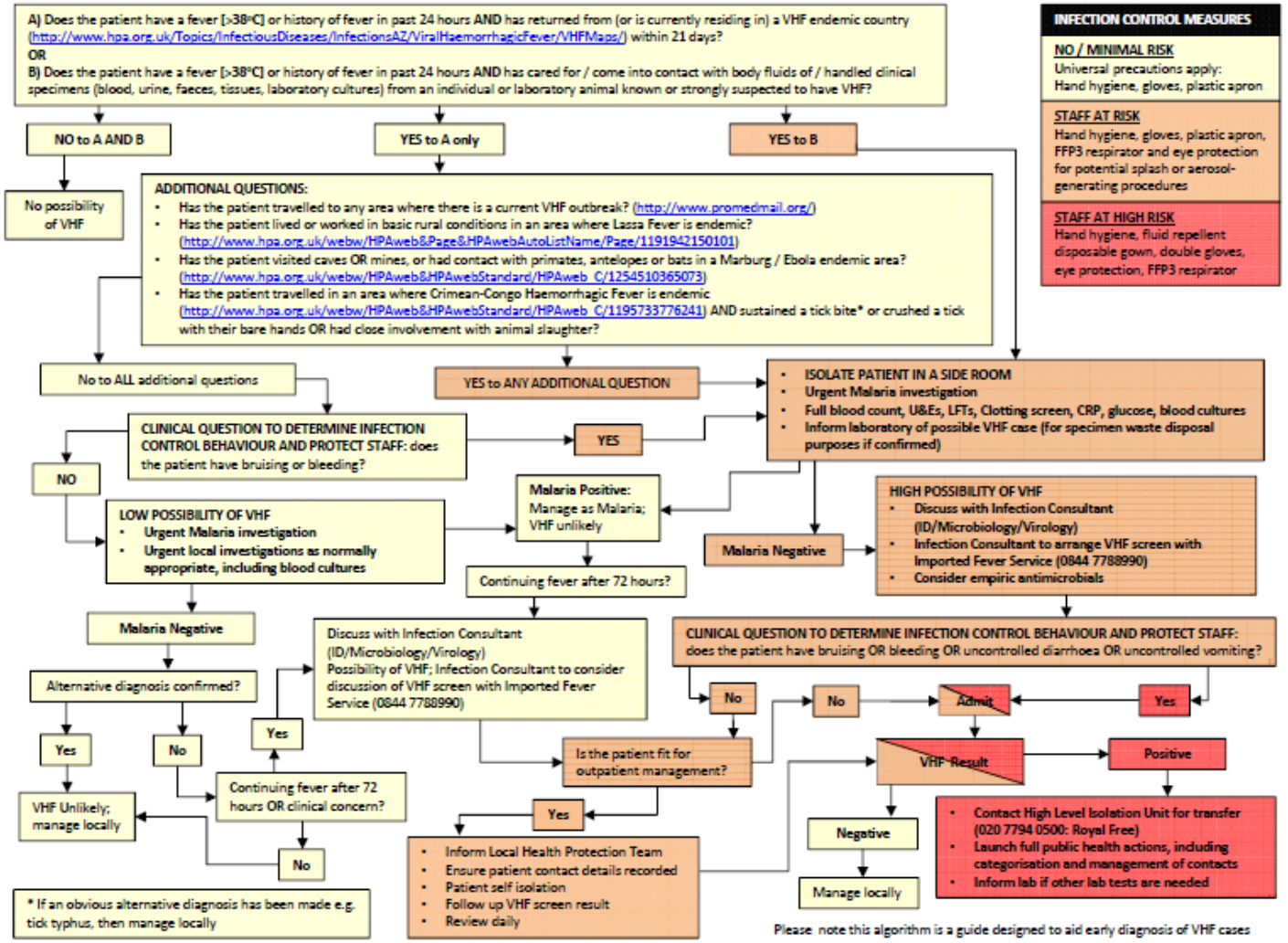
- **SARS and FLU EPIDEMICS:**
  Any patient presenting with respiratory symptoms, flu-like symptoms or diarrhoea and who has been in an affected area during the ten days prior to attending must be isolated and treated according to the current protocol held in ED. Vigilance is essential)

- **VIRAL HAEMORRHAGIC DISEASE:**
  There has been a recent outbreak of Ebola in Guinea, Liberia and Sierra Leone. It is unlikely, but not impossible, that travellers could arrive in the UK while incubating the disease (incubation period 2 to 21 days). Suspect if symptoms of fever, headache, sore throat or general malaise within 21 days of visiting affected area (or caring for high risk person). The patient must be isolated and treated as per the HPA algorithm (see next page).

- **Isolation of other infections you may encounter in the ED:**
  - Diarrhoea and/or vomiting
  - Undiagnosed rashes and fevers as well as measles, rubella, mumps
  - Newly diagnosed or suspected “open” TB
  - Suspected Group A strep infection
  - Patients shredding antimicrobial resistant microorganisms: eg. MRSA, GRE, aminoglycoside-resistant Gram-negative organisms
  - Inter-hospital transfers known to be colonised with resistant bacteria
  - Bronchiolitis
  - Chicken pox and shingles
  - This is not an exhaustive list – refer to *The Northern Ireland Regional Infection Prevention and Control Manual*. www.infectioncontrolmanual.co.ni

- *Use standard precautions for all patients – this includes good hand hygiene and use of protective clothing (eg. gloves and aprons)*

VIRAL HAEMORRHAGIC FEVERS RISK ASSESSMENT (Version 2: 09.07.2014)



MENINGOCOCCAL DISEASE - ADULTS

Presentation

Can be divided into four groups:

- Meningococcal Septic Shock
- Meningitis
- Both of above
- Non-specific: arthralgia, rash, collapse or confusion/psychosis

The typical rash is non-blanching but there may be any or no rash!

Treatment

- ABC – O_2 NRRM
- Vigorous resuscitation with IV crystalloid + colloid

- Meningitis with typical rash
  = Benzylpenicillin 2.4g IV 4 hourly

- Meningitis without typical rash < 55 yrs old
  = cefoaxime 2g IV 6 hourly OR Ceftriaxone 2g IV 12 hourly
  Add Amoxicillin 2g IV 4 hourly if > 55 yrs, immunocompromised or pregnant

- Meningitis with clear history of anaphylaxis to penicillin/cephalosporin
  =chloramphenicol 25mg/kg IV 6 hourly + co-trimazole 1.44g IV 12 hourly if > 55 yrs old.

- Notify Anaesthetist and inpatient medical team

- Ensure that Public Health are notified (immediate family will need prophylaxis). Ciprofloxacin stat dose recommended.

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TOXIC SHOCK SYNDROME

Organisms:	Gram positive bacteria - Usually Staphylococcal. Occasionally streptococcal
Presentation:	Fever >38.9 Hypotension Macular Rash (mucous membrane involvement) Diarrhoea Cardiovascular Collapse
Treatment:	supportive and high-dose flucloxacillin

SEPTIC SHOCK - SEE ALSO RESUSCITATION

Organisms:	Usually caused by pneumococci or gram negative organisms.
Presentation:	Focus of infection (may not be apparent initially) SIRS: Temp >38.3 or <36 HR >90 RR >20 WCC >12, 000or < 4,000 /mm3
Management:	Recognise early & seek advice Give oxygen 100% via NRRM Give N saline 1 litre rapidly and monitor response – (repeat further fluids if necessary) Check Blood Cultures Give empiric antibiotics (see Trust Policy) Catheterise bladder and measure urine output FBP, coag, ABG, u&e, glucose, lactate, CRP, LFT Perform ECG and CXR Refer to medical team for ADMISSION +/- ICU

CELLULITIS - LOWER LEG

Organisms:	*Usually streptococcal* Occasionally staphylococcal More rarely may involve gram negative organisms if complicating a significant wound May be polymicrobial if occurring in patients with diabetic foot disease
Risk Factors:	*Athlete's foot (recurrent disease)* Lymphoedema Varicose eczema Obesity Diagnosis Malaise and fever
Presentation:	Progressive painful swelling and erythema Usually unilateral but can be bilateral
Differential:	Lower leg eczema – itchy, non tender Acute oedema/blisters – usually bilateral Chronic lymphoedema – usually bilateral, well DVT – see earlier section on DVT Peripheral vascular disease – delayed CRT Compartment syndrome – sharply localised and extreme tenderness Vasculitis – usually bilateral, mainly anterior shin Necrotising fasciitis – severe pain, toxic

Investigation: FBP, ASOT(if present>10days), Blood cultures (if Temp >38.5)
U&E, LFTs if unwell and Streptococcal Toxic Shock Syndrome suspected

Treatment: Admission rarely required unless severe, antibiotic resistant or co-morbidity
Ceftriaxone via HDT for 48 hours if non-responding to oral antibiotics or severe at presentation
Affected areas should be elevated if possible
Failed treatment with above -seek senior advice
Consider admission to Obs ward for overnight Abx and senior review if concerned about patient
Avoid NSAIDs (associated with higher incidence of Nectrotising Fasciitis)

Refer suspected Necrotising Fasciitis to surgeons immediately: ill septic patient, rapidly progressive skin change and severe pain are all pointers to this diagnosis

MANAGEMENT OF SUSPECTED INFECTIVE GASTROENTERITIS

This applies to all adult patients with non-specific vomiting and/or diarrhoea. C Difficile Toxin should be checked and if positive (or has been positive within 12 weeks of presentation) must be isolated according to Trust Protocol.

1. Assessment should take place in the isolation room unless definitely not a gastroenteritis case (eg vomiting due to mi)
2. The patient should have a full doctor's assessment to exclude surgical/non-infective cause for symptoms (ie pancreatitis, obstruction etc).
3. Faeces should be sent to lab urgently for C/S if possible
4. If a surgical cause for the illness is excluded the patient's state of hydration should be assessed (including U&E) *and*
5. Re-hydration using dioralyte or IV fluids as tolerated.

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Patient can be discharged if

- tolerating oral fluids,
- mobile,
- passing urine
- suitable home circumstances

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give infection precaution advice if discharging (if employed in food -handling refer to GP)

IMMUNISATION ENQUIRIES AND INFECTION EXPOSURE (SEE ALSO NEEDLESTICK INJURIES, TETANUS)

Don't guess the answer - You must check the Green Book ("Immunisation against Infectious Diseases" 2006) every time.

Post Vaccination Problems

Usually affect children and may present to the Emergency Department or helpline. Specific guidelines are given in the Green Book and in the BNF.

Requests for emergency immunisation

Patients may present to the Emergency Department or phone on helpline. Check green book and get senior advice
(e.g. Rabies, Hep B, usually from travellers or Varicella Zoster following exposure during pregnancy).

Urgent active +/- passive immunisation may be required. Blood titres may need to be taken.
Northern Ireland's Public Health Supplies are accessed via the on-call microbiologist at BCH.

Tetanus Prophylaxis

Table 30.1 Immunisation recommendations for clean and tetanus-prone wounds

IMMUNISATION STATUS	CLEAN WOUND	TETANUS-PRONE WOUND	
	Vaccine	Vaccine	Human tetanus immunoglobulin
Fully immunised, i.e. has received a total of five doses of vaccine at appropriate intervals	None required	None required	Only if high risk (see p 379)
Primary immunisation complete, boosters incomplete but up to date	None required (unless next dose due soon and convenient to give now)	None required (unless next dose due soon and convenient to give now)	Only if high risk (see p 379)
Primary immunisation incomplete or boosters not up to date	A reinforcing dose of vaccine and further doses as required to complete the recommended schedule (to ensure future immunity)	A reinforcing dose of vaccine and further doses as required to complete the recommended schedule (to ensure future immunity)	Yes: one dose of human tetanus immunoglobulin in a different site
Not immunised or immunisation status not known or uncertain	An immediate dose of vaccine followed, if records confirm the need, by completion of a full five-dose course to ensure future immunity	An immediate dose of vaccine followed, if records confirm the need, by completion of a full five-dose course to ensure future immunity	Yes: one dose of human tetanus immunoglobulin in a different site

Tetanus-prone wounds include:

- wounds or burns that require surgical intervention that is delayed for more than six hours
- wounds or burns that show a significant degree of devitalised tissue or a puncture-type injury, particularly where there has been contact with soil or manure
- wounds containing foreign bodies
- compound fractures
- wounds or burns in patients who have systemic sepsis.

Management:

Prevention is key – clean and debride wound
Vaccine +/- immunoglobulin as in table above.
Antibiotics as required

MANAGING SUSPECTED EXPOSURE TO HIV AND HEPATITIS VIRUSES

Each case of suspected Blood Borne Virus (BBV) exposure is different – judgement and experience are essential. Contact an experienced Emergency Department doctor or the Occupational Health nurse for advice.

The commonest scenarios that you will encounter will be:

- **Healthcare workers** – usually after needlestick injury. ALL should be followed up by OCCUPATIONAL HEALTH. Follow the Trust Sharps Injuries Policy found on the intranet.
- **Other occupational exposure** – eg police, council workers("binmen" etc) who should all be followed up at their employer's Occupational Health Department or GP to refer to GUM for follow-up.
- **General Public** – eg children playing with needles (iv drug abuse is common in this area), people who have sustained bites and scratches. All should be followed up by their GP who should receive a detailed discharge letter from you.

Step One: Immediate Action

- First aid measure: wash wound well and encourage free bleeding, irrigate affected mucous membrane with water
- Reporting: Sharps injury should be reported to the person in charge / line manager. Within normal working hours it should then be reported via telephone to Occupational Health. Outside normal working hours the health care professional will report to the ED after risk assessment has been completed at source.

Step Two: Risk Assessment – information gathering

- Risk Assessment: risk assessment of the source patient (if known) must be carried out as soon as possible, ideally within 30 minutes of the incident. This should be carried out by a clinician with clinical responsibility for the patient (inpatient team or GP if in community) – NOT the ED staff.

1. Assess the risk of the Source patient:

The donor is classified as high risk if he/she is in one of the following categories -

- known seropositive Hepatitis or HIV
- history of IV drug abuse
- homosexual, bisexual or sex industry worker
- from an endemic area (e.g. South East Asia - hepatitis B, parts of the African Continent - HIV)
- sexual contact with a high risk person

2. Assess the risk of the fluid or tissue

The following contaminating fluids or tissue are classified as high risk-

- blood or any blood-stained fluid
- breast milk, amniotic fluid, vaginal secretions or semen
- peritoneal, pericardial or pleural fluid
- synovial fluid or CSF
- saliva in association with dentistry
- any tissue (unless already "fixed")

3. Assess the risk of the exposure

The following types of exposure are classified as high risk -

- needlestick or other percutaneous exposure (3 in 1,000 for HIV)
- exposure to broken skin
- mucous membrane (<1 in 1,000 for HIV)

~~2.~~4. Recipient factors

Previous immunisation status
Known Hep B Vaccine non-responder

~~3.~~5. Unknown source

If there has been a significant exposure and a source patient cannot be identified, risk assessment should be on an individual basis. This will be decided by a consideration of the circumstances of the exposure, and the epidemiological likelihood of BBV in the source. In the vast majority of such exposures, it would be difficult to justify the use of HIV PEP. (UK Health Departments 2004).

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Step Three: Risk Assessment – Determining Overall Risk

You now have a picture of the relative overall risk. Unfortunately there are no hard and fast guidelines but some situations - e.g. percutaneous needlestick with a cannula which had been placed in a HIV positive patient's vein - are clearly very high risk compared to others. Try to place the patient into either 'very high risk', 'moderate risk' or 'low risk'.

Discuss all patients with the ED consultant / Occupational Heath unless clearly high risk requiring immediate treatment. In general most exposure is not of sufficient risk of HIV to warrant post-exposure prophylaxis (PEP). There is however a significant risk of hepatitis.

The clinician in charge of the source patient should consent the patient and obtain blood to test for blood borne virus using the consent form Annex B in the Trust Policy.

Occupational Health / ED if OOH, should obtain 4mls clotted blood sample to send to virology in RVH marked "recipient blood for storage"

High Risk □	Known HIV patient give PEP within one hour, and contact Occupational Health / ED. **Specialist advice can be obtained from the Regional Genito-urinary Medicine Consultants for high-risk incidents, through switchboard at the Royal Victoria Hospital Belfast on 028 90240503.**
Moderate risk □	Some risk factors may have been identified e.g. lived or travelled in HIV endemic area – Urgent discussion with Occupational Health/ Emergency Medicine Consultant.
Low risk □	No risk factors identified – routine management

Step Four: Treatment

1. HIV prophylaxis
   - Give recipient post-exposure prophylaxis starter pack, which is kept in the ED. *The recipient should take the first dose immediately*
   - Obtain sample from recipient for baseline HIV analysis
   - Refer to Occupational Health/GP

2. Hepatitis-B prophylaxis

HBV status of person exposed	Significant exposure			Non-significant exposure	
	HBsAg positive source	**Unknown source**	**HBsAg negative source**	**Continued risk**	**No further risk**
≤ 1 dose HB vaccine pre-exposure	Accelerated course of HB vaccine* HBIG x 1	Accelerated course of HB vaccine *	Initiate course of HB vaccine	Initiate course of HB vaccine	No HBV prophylaxis Reassure
≥ 2 doses HB vaccine pre-exposure (anti-HBs not known)	One dose of HB vaccine followed by second dose one month later	One dose of HB vaccine	Finish course of HB vaccine	Finish course of HB vaccine	No HBV prophylaxis Reassure
Known responder to HB vaccine (anti-HBs > 10 miU/ml)	Consider booster dose of HB vaccine	Consider booster dose of HB vaccine	Consider booster dose of HB vaccine	Consider booster dose of HB vaccine	No HBV prophylaxis Reassure
Known non-responder to HB vaccine (anti-HBs <10 miU/ml 2-4 months post-immunisation)	HBIG x 1 Consider booster dose of HB vaccine	HBIG x 1 Consider booster dose of HB vaccine	No HBIG Consider booster dose of HB vaccine	No HBIG Consider booster dose of HB vaccine	No prophylaxis. Reassure

3. For exposure to Hepatitis-C etc

- Obtain sample from recipient for baseline analysis
- Refer to Occupational Health/GP

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POST EXPOSURE PROPHYLAXIS AFTER SEXUAL EXPOSURE

You may be asked for PEPSE by a patient who is concerned about infection after risky sexual behaviour. It is important first to determine the risk of exposure to HIV/HEP B. The Trust has developed a policy along with the GUM department in Causeway Hospital for the assessment and management of these patients. Prescribe PEPSE as per this policy. All patients should be referred to GUM for follow-up.