

ALTERED MENTAL STATUS

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The Altered Mental Status protocol covers a variety of disorders. This reflects the fact that the definitive diagnosis of the cause of altered mental status cannot be done in the field. Thus, we approach patients with altered mental status in a way, which protects them from the common life threats associated with the various causes. This discussion deliberately does not cover differential diagnosis, but will comment on considerations important in special circumstances.

UNRESPONSIVE COMA OF UNKNOWN ORIGIN

1. Maintain airway, breathing and circulation.
2. Cervical spine immobilization (if possibility of trauma).
3. Pulse Oximetry, high flow oxygen.
4. EKG monitor (if dysrhythmias, begin ACLS protocols).
5. Neurological exam and pupil check (if head trauma, begin Head Injuries protocol).
6. IV Normal Saline TKO rate, blood draw.
7. Glucose check.
8. Administer Thiamine (Betamine, Thiamilate) 100 mg IV PUSH (adults only malnourished or alcohol dependant).
9. Administer glucose: (if less than 60 on glucose check).
Adults: 25g D50 IV.
Children: 2 ml/kg D25 IV PUSH.
10. Administer Narcan:
Adults: 0.4 mg IV; may be IM, or intranasally with atomizer. May be repeated
Children: 0.01 mg/kg IV PUSH,
if this is ineffective, may repeat dose of 0.1 mg/kg.
11. Transport
12. Monitor ABC's.

WATCH FOR SEIZURES (BEGIN SEIZURE PROTOCOL)
WATCH FOR ASPIRATION

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HYPOGLYCEMIA (INSULIN SHOCK)

HYPOGLYCEMIC COMA IS NOT RESTRICTED TO THE DIABETIC! It occurs in a large variety of conditions and in response to a large variety of common medications and alcohol. It can mimic altered mental status of any other cause, and may even present with focal signs resembling a stroke or with bizarre, violent behavior resembling a drug overdose. Hypoglycemia may produce permanent physical damage or death, but these sequellae can easily and rapidly be prevented by treatment. This is why the administration of D50 is central to the Altered Mental Status protocol.

THE DANGER OF WITHHOLDING GLUCOSE FROM A HYPOGLYCEMIC PATIENT FAR EXCEEDS THE DANGER OF ADMINISTERING GLUCOSE TO A HYPERGLYCEMIC PATIENT

1. Airway, breathing and circulation.
2. Cervical spine immobilization (if possibility of trauma).
3. Pulse Oximetry, high flow oxygen.
4. EKG monitor (if dysrhythmias, begin ACLS protocol).
5. Neurological exam and pupil check (if head trauma, begin Head Injuries protocol).
6. IV Normal Saline TKO rate, blood draw.
7. Glucose check.
8. Administer Thiamine (Betamine, Thiamilate) 100 mg IV PUSH (only in malnourished adults or Alcohol dependent).
9. Administer Glucose, (if less than 60 on Glucose check).
Adults: 25g D50 IV
Children: 2 ml/kg D25 IV PUSH.
10. If IV unsuccessful, administer Glucagon (Adult) 1 mg in solution IM.
If IV unsuccessful, administer Glucagon (Children < 20 kg) 0.5 mg IM
11. Transport.
12. Monitor ABC's.

WATCH FOR SEIZURES (BEGIN SEIZURE PROTOCOL) WATCH FOR ASPIRATION

HYPERGLYCEMIA (DIABETIC KETOACIDOSIS)

1. Airway, breathing and circulation.
2. Cervical spine immobilization (if possibility of trauma).
3. Pulse Oximetry, high flow oxygen.
4. EKG monitor 12 lead (if dysrhythmias, begin ACLS protocol)
5. Neurological exam and pupil check.
6. Glucose check.
7. IV Normal Saline, fluid bolus 10-20cc/kg NS, blood draw (Patients over the age of 16).
8. Transport.
9. Monitor ABC's.

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SYNCOPE

Syncope represents a brief loss of consciousness. A simple faint is one type of syncope. Anyone who falls and does not know why should be treated as a possible syncope patient. All patients with syncope should be evaluated for possible trauma. Dysrhythmias are a common cause of syncope in older people.

ALL PATIENTS OVER THE AGE OF 35 WILL HAVE A 12-LEAD EKG SENT TO ED

KEEP PATIENT FLAT

1. Maintain airway, breathing and circulation.
2. Pulse Oximetry, high flow oxygen.
3. **12-Lead EKG/Cardiac Monitor (if dysrhythmias, begin ACLS protocols).**
4. Consider head injury (begin Head Injuries protocol).
5. IV Normal Saline TKO rate, blood draws.
6. Glucose check.
7. Treat for shock (if needed).
8. Transport supine.
9. Monitor ABC's.

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CVA PROTOCOL

1. Administer oxygen via non-rebreather, pulse oximetry.
2. Evaluate patient with a rapid history, neurological examination and vital signs.
3. Start one IV Normal Saline.
4. Obtain glucose level.
5. Apply 12-lead EKG monitor.
6. Obtain temperature (if temperature is greater than 37.5° C, begin active cooling with ice packs.)
7. Notify University Hospitals as to:
 - a) Transport of a potential brain attack patient.
 - b) Pertinent history and physical findings,
including time of onset as exact as possible
 - c) Blood glucose level.
 - d) Neurological deficits, including:
 - (1) Extremity or facial muscle weakness.
 - (2) Sensory loss.
 - (3) Visual deficit.
 - (4) Inability to speak or comprehend spoken words.
 - (5) Utilize the Cincinnati Stroke Scale
8. If transport time is greater than 20 minutes to a stroke center, consider utilization of OneCall Program for aeromedical transport

Cincinnati Stroke Scale

PROCEDURE

1. **Facial droop:** Have the patient smile to show their teeth.
Normal = both sides of face move equally
Abnormal = One side of face does not move at all
2. **Arm drift:** Have the patient close their eyes and hold their arms straight out in front for about 10 seconds.
Normal = Both arms move equally or not at all
Abnormal = One arm drifts compared to the other
3. **Speech:** Have the patient say, “You can’t teach an old dog new tricks”
Normal = Patient uses correct words with no slurring
Abnormal = Slurred or inappropriate words or mute

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SEIZURES

Patients with seizures also may have dysrhythmias. Since they may seize again, they must be protected from causing self-harm by their tonic-clonic movements. **Nothing in the mouth.** Breaking or dislodgment of teeth may result in foreign body aspiration. Remember that a grand mal seizure usually consists of two parts.

The seizure is the part where the patients will stiffen up or demonstrate a coarse shaking of all or part of the body. The Post-Ictal period is a time of unconsciousness or confusion, which can be presumed to last longer than five minutes. This history is helpful in distinguishing seizure from syncope (see below).

PROTECT PATIENT FROM INJURY

1. Airway, breathing and circulation.
2. Cervical spine immobilization (if possibility of trauma).
3. Pulse Oximetry, high flow oxygen.
4. EKG monitor (If dysrhythmias, begin ACLS protocols).
5. Neurological exam and pupil check (if head trauma, begin head injury protocol)
6. IV Normal Saline TKO rate, blood draw.
7. Glucose check.
8. If feverish, cool immediately.
9. If hypovolemic, treat for shock.
10. Administer Thiamine (Betamine, Thiamilate) 100 mg IV PUSH, only if giving Glucose (adults only)
11. Administer Glucose (If suspected hypoglycemia or if Glucose level is less than 60), administer D50.
Adults: 25 g D50 IV PUSH,
Children: 2 ml/kg D25 IV PUSH.
12. Administer Valium (Diazepam)
Adults: 5 mg IV/IM/IO
Children: 0.1-0.2 mg/kg IM/IO
-----or-----
Administer Versed (Midazolam)
Adults: 5 mg IV/IM/IO/Intranasal
Children: 0.1-0.2 mg/kg IM/IO/Intranasal
14. Transport.
15. Monitor ABC's.