

Guide to Declaration of Death by Neurologic Criteria (DNC) and Processes for Organ Donation

Phase 1: Referral to Finger Lakes Donor Recovery Network (FLDRN)

Referral triggers

Phase 2a: Procedure for determination of Death by Neurologic Criteria (DNC)

Three Clinical criteria for DNC

A. COMA

Determination of Irreversible Coma

B. UNRESPONSIVENESS

Documentation of absence of brainstem reflexes and responses to pain

C. APNEA

Performance of Apnea test

Phase 2b: Ancillary testing

Indications

Acceptable ancillary tests

Phase 2c: Documentation and declaration of death

Use Form 83007 for patients age 19 years and over

Use Form 83535 for patients 18 years and under

NOTE: A second Attending Physician is necessary for attestation of DNC for organ donor candidates.

Phase 3: Request for Organ Donation by FLDRN

FLDRN are the ONLY designated requestor of the Hospital

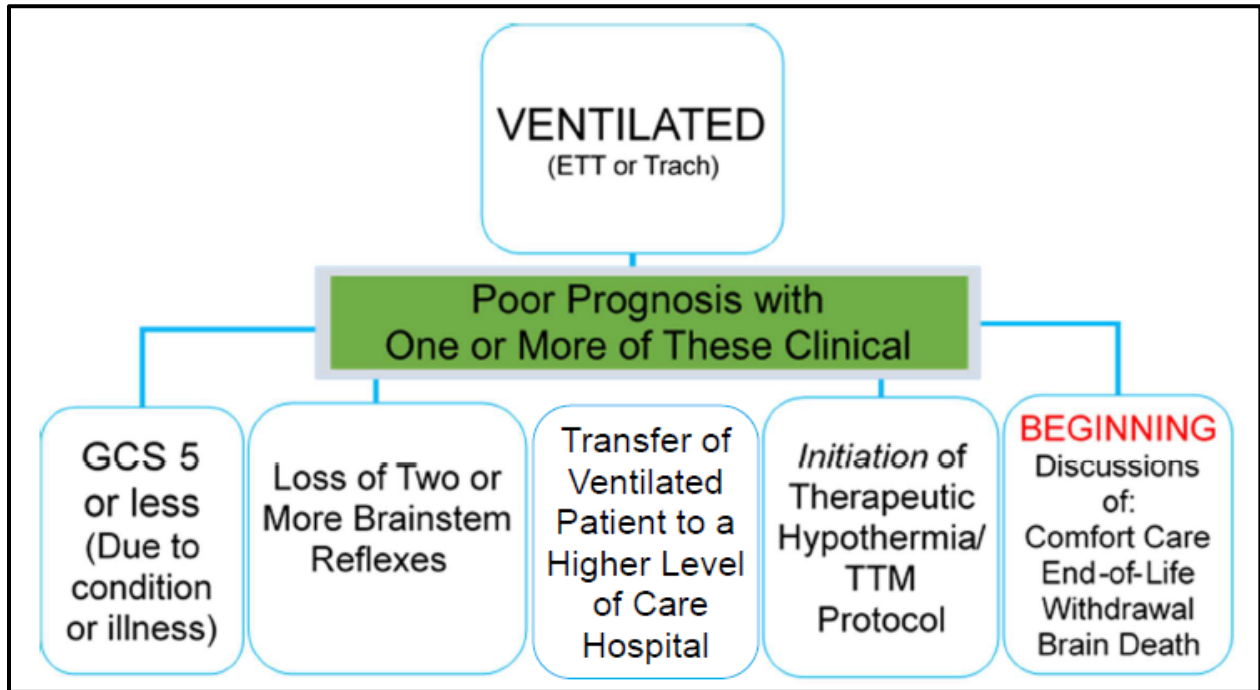
Confounding Issues

Discussing Brain Death with Families

PHASE 1: Referral to Finger Lakes Donor Recovery Network (FLDRN)

Most patients with devastating neurological injury (whether primary or secondary to severe medical condition) will progress to brain death. Timely referral of these patients to Organ Procurement Organization (OPO) is important to be compliant to all Federal and State Laws and Hospital policies.

The following REFERRAL TRIGGERS per **hospital policy O-04** must be followed for timely evaluation of potential organ donor patients



PHASE 2A: Procedures for determination of Death by Neurological Criteria (DNC)

There are three criteria for the clinical determination of DNC. They are:

A. COMA: Determination of Irreversible Coma

Ensure patient has MET ALL prerequisites prior to clinical examination of brain stem reflexes
As soon as the patient meets all the prerequisite, it is important to initiate and complete the determination of DNC to preserve patient’s option for organ donation.

Prerequisites for Brain Death Evaluation		
Criteria (All items MUST be YES before initiating brain death examination)	YES	NO
1. Patient in coma or unresponsive and cause known: Cause:		
2. An appropriate period of time has passed since the onset of brain insult to exclude possibility of recovery		
3. Clinical or neuroimaging evidence of acute neurologic catastrophe compatible with coma		
4. CNS depressant drug effect absent (Option: waiting period equivalent to 5-half-lives)		
5. Absence of neuromuscular blockade (option: 4/4 twitch on Train of Four monitoring)		
6. Absence of severe acid-base, electrolyte or endocrine abnormality		
7. Core body temperature > 36 degrees C and systolic BP ≥ 100 mmHg (Option: MAP > 65 mmHg)		
8. No spontaneous respiration		

NOTES:

Criteria 1: Understanding the etiology of injury of the brain is critical to ensure that it is irreversible. There needs to be a recognized cause of coma sufficient to explain irreversible loss of all brain function. If no cause of irreversible injury is identified, then death by neurological criteria cannot be determined. Imaging of the brain can be very helpful as can watchful waiting. If the etiology of the determination of death cannot be determined, it can be appropriate to wait for a period of time to make sure that the examination doesn't change.

Criteria 2: Although no specific time has been determined, it is customary to wait for an appropriate period of time before initiating brain death examination to exclude the possibility of recovery. In the case of cardiac arrest, it is not uncommon for patients to have absent brainstem function in the initial hours after resuscitation and regain those functions later. For this reason, it is important that there not be a rush to judgment of death based on the examination of a patient early after resuscitation. Additionally, now that induced hypothermia for 24–48 hours has become the standard of care for patients with cardiac arrest, it makes it very difficult to determine that a patient is dead until after the cooling and rewarming period has past.

Criteria 3: Neuroimaging findings must be of such severity to cause coma

Criteria 4 and 5: The confounding factor of the sedatives and paralytics make it impossible to declare someone dead since neurologic examination in their presence may be completely consistent with death otherwise.

Criteria 6: Presence of severe acid-base, metabolic/electrolyte or endocrine abnormality may confound the clinical examination. If unable to correct, ancillary testing maybe warranted.

Criteria 7: At low temperatures, the body's metabolic rate decreases.

Consequently, nerve function is affected potentially affecting the neurological exam

Criteria 8: Patients should be examined for triggering the ventilator

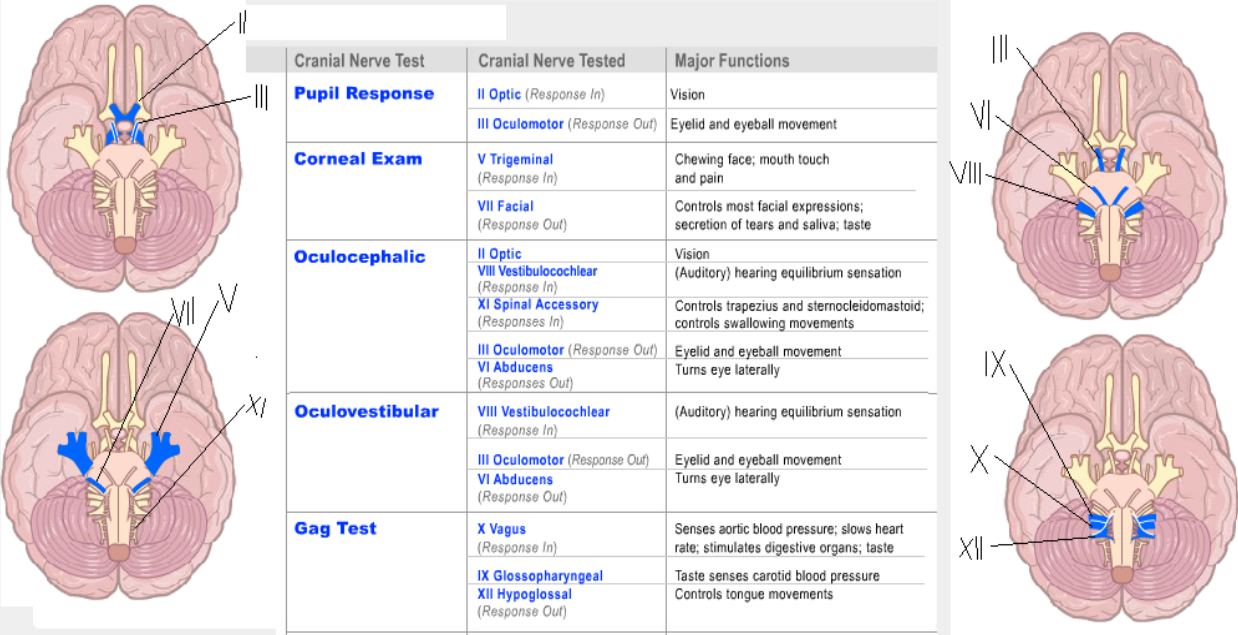
B. UNRESPONSIVENESS: Documentation of Absence of brainstem reflexes and pain response

It is important to emphasize that no permission is needed from the family to perform brain death examination and apnea test, it is considered a part of the examination to which all patients in the hospital are subjected.

The physical examination for a person in a coma includes the following:

- Cranial nerve examination
- Response to painful stimuli

CRANIAL NERVE EXAMINATION



Cranial Nerve Test	Cranial Nerve Tested	Major Functions
Pupil Response	II Optic (Response In)	Vision
	III Oculomotor (Response Out)	Eyelid and eyeball movement
Corneal Exam	V Trigeminal (Response In)	Chewing face; mouth touch and pain
	VII Facial (Response Out)	Controls most facial expressions; secretion of tears and saliva; taste
Oculocephalic	II Optic	Vision
	VIII Vestibulocochlear (Response In)	(Auditory) hearing equilibrium sensation
	XI Spinal Accessory (Responses In)	Controls trapezius and sternocleidomastoid; controls swallowing movements
	III Oculomotor (Response Out)	Eyelid and eyeball movement
Oculovestibular	III Oculomotor (Response Out)	Eyelid and eyeball movement
	VI Abducens (Responses Out)	Turns eye laterally
	VIII Vestibulocochlear (Response In)	(Auditory) hearing equilibrium sensation
Gag Test	III Oculomotor (Response Out)	Eyelid and eyeball movement
	VI Abducens (Response Out)	Turns eye laterally
	X Vagus (Response In)	Senses aortic blood pressure; slows heart rate; stimulates digestive organs; taste
	IX Glossopharyngeal	Taste senses carotid blood pressure
	XII Hypoglossal (Response Out)	Controls tongue movements

1. Pupil Response Test

For the Pupil Response test, you are testing the reflex arc of the 2nd and 3rd cranial nerves by observing any response to light.

- Evidence of brainstem function: pupils constrict
- Evidence of brainstem dysfunction: no pupil response

Technique

The technique involves shining a light into each eye sequentially. Typically, the light is swept from the lateral (closer to the ear) to the medial.

Steps

Both eyes should be open to see if the response occurs in both eyes (shining a light in one eye should cause the response in both eyes in normal people i.e., consensual responses).

1. Sweep light in the eye by sweeping lateral to medial
2. Repeat on opposite side

2. Corneal exam

For the Corneal Exam, you are testing the reflex arc of the 5th and 7th cranial nerve sensation of the eye by observing a blink response in the patient.

- Evidence of brainstem function: a slight blink will occur
- Evidence of brainstem dysfunction: no response

Technique

The technique uses a cotton swab rubbed against the cornea. The goal is to observe the reflex by not evoking vision. You can also perform a nasal tickle* for patients whose eyes are compromised.

Steps

1. Take a cotton swab and pull out some of the cotton so it is wispy at the end
2. Approach patient laterally (so he or she cannot see you coming)
3. Put wispy part of swab on cornea at junction where the iris and the sclera meet; brush softly toward the ear
4. Repeat on opposite side

* For detailed information on the nasal tickle, please refer to *Localization in Clinical Neurology* (Brazis, PW, Masdeu, JC, Biller, J [Little, Brown, and Co. Boston 1996] pp. 255-56).

3. Oculocephalic test (Doll's Eye)

Oculocephalic tests the reflex arc for the 3rd, 4th, 6th, 8th, and 11th cranial nerves by observing movement of the patient's eyes while moving the head.

- Evidence of brainstem function: eyes fix their gaze on one point in space—eyes move in the head as the head is moved to keep looking at the same place
- Evidence of brainstem dysfunction: eyes fixed in the head—eyes will move with the head regardless of how the head is positioned

Technique

This test is performed by holding the eyes open and moving the head back and forth. The endotracheal tube is held in place.

WARNING: Do **NOT** perform this test on patients with unstable spine fractures.

Steps

1. Hold patient's eyes open and hold endotracheal tube so as not to dislodge it
2. Briskly turn the head (with a bit of a jerk) one way and then the other

4. Oculovestibular test (Cold Caloric Testing)

The Oculovestibular tests the reflex arch for the 3rd, 6th, and 8th cranial nerve by administering cold water into the ear canal and observing ocular movements.

- Evidence of brainstem function:
 - Awake patient: eyes deviate toward cold water stimulus and rapid phase of nystagmus in the opposite direction (**COWS**)
 - Comatose patient: eyes deviate toward cold water stimulus usually without nystagmus. COWS does **NOT** apply.
- Evidence of brainstem dysfunction: no ocular response

Technique

This test involves cold water irrigation to the ears. The purpose is to slowly cool the tympanic membrane.

WARNING: Do **NOT** perform the test if the tympanic membrane is ruptured.

WARNING: Responses can be muted when blood or cerumen is in the auditory canal (perform otoscope exam prior).

Steps

Inspect the auditory canal with an otoscope for evidence of rupture then do the following:

1. Elevate the head to 30 degrees
2. Place a small basin under the ear to contain water (water will drain out as you put it in)
3. Hold the eyes open
4. Use a 30cc or 60cc syringe with butterfly tubing (needle cut off) to *slowly* flush 30–60 ml. of ice water into the ear (Care should be taken to assure that the stimulus reaches the tympanic membrane)
5. After one side is done, a warming up period for the first ear should be observed (an additional 5 minutes).
6. Repeat on opposite side

Cold Opposite Warm Same (COWS)

One mnemonic used to remember the direction of nystagmus is COWS. Cold water = the rapid phase of nystagmus to the **O**pposite side, **W**arm water = nystagmus to the **S**ame side.

The comatose patient rarely has nystagmus; only eye deviation.

5. Gag Test

For the Gag Test, you are testing in the reflex arc of the 9th, 10th, and 12th cranial nerves by stimulating the posterior pharynx and observing for gag reflexes.

- Evidence of brainstem function: soft palate elevates and tongue depresses
- Evidence of brainstem dysfunction: no response

Technique

The gag test is done by visually inspecting the oral cavity as it is touched with a tongue depressor.

WARNING: Do **NOT** use the endotracheal tube to perform test as the risk of extubation is high.

Steps

1. Open mouth and shine light on posterior pharyngeal membrane
2. Use a tongue depressor to poke the membrane lateral to the midline
3. Repeat on both sides

RESPONSE TO PAIN STIMULATION

This exam uses painful stimulus to test for abnormal reflexes that require brainstem function. Extensor or flexure posturing is **not consistent** with the diagnosis of death.

- Evidence of brainstem function: Voluntary movements; posturing
- Absence of brainstem function: Testing reflexes and pain responses must reveal no evidence of brainstem function. Patients must be without any type of response to verbal or painful stimuli.

Spinal reflexes and various spontaneous movements may persist in patients who meet neurological criteria for death.*

Technique

This exam is performed by applying pressure to the trapezius muscle (central exam) and to the fingernail bed (distal exam).

Steps

1. Pinch trapezius muscle
2. Examine for abnormal movements
3. Apply nail bed pressure in hand
4. Examine for abnormal movements
5. Repeat on opposite side

*The effect often occurs on one side only. For more information, refer to: Jain S. DeGeorgia M. [Brain death-associated reflexes and automatisms](#). *Neurocritical Care*. 3(2):122-6 (2005).

If you cannot complete all components of the physical exam, an ancillary test should be considered.

C. APNEA: An appropriately done apnea test

Certain prerequisites need to be met prior to performance of apnea test.

Apnea Testing

Prerequisites (All items MUST be YES before initiating Apnea Testing)	YES	NO
1. Core temperature \geq 36 degrees C		
2. Systolic BP \geq 100 mmHg (treat with vasopressors if low)		
3. Euvolemic (Option: positive fluid balance in previous 6 hours, give fluid boluses or vasopressin)		
4. Normal PO ₂ (Option: preoxygenate with 100% O ₂ x 10 min to obtain arterial PO ₂ \geq 200mmHg)		
5. Normal PCO ₂ (Option: arterial PCO ₂ = 40 \pm 5 mmHg, adjust ventilation as necessary) If with severe COPD or morbid obesity, consider confirmatory testing		
6. Absent significant cervical spine injury at or above the level of C5. If with cervical spine injury, consider ancillary testing.		

An apnea test must demonstrate an absence of all spontaneous respiratory drive to meet the criteria for DNC testing.

Technique

This test consists of ventilating the patient with 100% oxygen for a period of 30 minutes. The ventilator is then disconnected and oxygen is delivered through a catheter to the trachea at a rate of about 6 liters per minute.

Although the Respiratory Therapist may administer the apnea test, it is the responsibility of the physician to initiate and monitor the test. This involves the physician observing the patient continually throughout the 10-12 minute waiting period.

Steps

1. Preoxygenate patient with 100% O₂ for at least 30 minutes
2. Draw an ABG to ensure the criteria for oxygen and CO₂ levels are met (PaCO₂ 35–45 mmHg; arterial pH 7.40 or less)
3. Expose the patient's chest and abdomen to allow inspection of breaths
4. Discontinue mechanical ventilation
5. Administer O₂ at 6 lpm via endotracheal tube
6. Observe for spontaneous respiration
7. After 10-12 minutes if no spontaneous respirations are observed, draw ABG and reinstitute mechanical ventilation

WARNING: Abort the test if the patient becomes unstable (hypoxic, hypotensive, or develops cardiac arrhythmias).

Interpretation

If the pCO₂ rises to greater than 60mmHg or 20mmHg higher than the pretest pCO₂ and the patient has no respiratory effort, the test supports the diagnosis of death by neurological criteria.

PHASE 2B: Ancillary Testing

Patients in whom all three criteria for diagnosis cannot be met, then ancillary testing is done to confirm the suspicion of death.

Ancillary testing can also be done to confirm the diagnosis if you are unable to do a complete physical examination for example, due to a facial injury.

Ancillary tests do not prove DNC in the face of clinical signs that DNC has not occurred.

Note: Ancillary testing is sometimes referred to as confirmatory testing.

WARNING: Do **NOT** perform brain death exam on a patient who is **NOT** in a coma. Before administering specialized neurological tests (ancillary tests) to determine DNC, you *must* attempt a physical examination and apnea test. This is the most important examination any doctor makes. It needs to be done carefully and conscientiously.

WARNING: Ancillary tests should **NOT** be done for hypothermia.

Indications for Ancillary Testing

Ancillary Testing (not required unless severe facial/head/neck trauma obscuring clinical exam, chronic retention of CO₂ or other instability makes clinical exam not possible)

Indications for Ancillary testing (Must check at least one indication)	YES	NO
1. Inability to complete ALL Brainstem examination due to cervical or facial injuries.		
2. There is uncertainty with the result of the neurologic examination		
3. Inability to confirm whether the medication effect may be present or not.		
4. Inability to perform or complete APNEA testing due hemodynamic instability or hypoxemia		
5. Inability to perform APNEA Test due to known or suspected cervical spine injuries.		
6. Inability to perform APNEA Testing due to chronic CO ₂ retention (e.g. severe COPD)		

Accepted ancillary tests include the following

Cerebral Scintigraphy

This test is used to confirm presence or absence of cerebral blood flow by radionuclide testing.

Drawbacks

- Requires patient transport to radiology

Electroencephalogram (EEG)

The abnormalities include a lack of reactivity to intense somatosensory or audiovisual stimuli.

Drawbacks

- Artifact in the ICU setting may confound diagnosis

Cerebral Angiography

No intracerebral filling should be detected at the level of entry of the carotid or vertebral artery to the skull. The external carotid circulation should be patent.

Drawbacks

- Requires patient transport to angio suite

The following tests are NOT RECOMMENDED ancillary tests due to absence of rigorous validation as confirmatory for brain death

- TCD: Transcranial Doppler Ultrasound
- SSEP: Somatosensory Evoke Potential
- CTA or MRA: CT or MR angiography
- BAER: Brainstem Evoked Potential

PHASE 2C: Documentation and Declaration of DNC

The determination of DNC is made by a physician. The diagnosis is based on the following three criteria:

1. Understanding the etiology of the injury to the brain and that it is irreversible.
2. A consistent exam. There is still variability in the number of exams required to make the diagnosis. Some states and hospitals require two exams or exams by specific specialists. Although, there is no evidence that two exams improve the accuracy of the diagnosis and some evidence that it may be detrimental.
3. There are three components of a standard DNC exam. They are:
 1. Coma
 2. Absence of brainstem reflexes
 3. An appropriately done apnea test

Formal documentation of death should include the following pieces of information:

1. Patient name and medical record number
2. Time and date of documentation
3. Cause of irreversible brain injury
4. Documentation of the clinical examination
5. Results of apnea test
6. Mention of confounding issues
7. Results of ancillary tests (if done)
8. A declaration that the patient is dead by neurological criteria
9. Time and date of death—The AAN practice parameter recommended that the time of death should be the time:
 - o The apnea test is reported
 - o When the ancillary test is reported (when needed)
10. The signature of the examining clinician or clinicians and a method of contact

Documentation tools are available and should be used

DOWNTIME FORM

Use Form 83007 for patients age 19 years and over

Use Form 83535 for patients 18 years and under

EPIC Smartphrase

".braindeath"

NOTE: A second Attending Physician is necessary for attestation of DNC for organ donor candidates.

PHASE 3: Request for Organ Donation by FLDRN

Finger Lakes Donor Recovery Network (FLDRN) is the designated requestor for organ donation.

CONFOUNDING ISSUES

Confounders make up an important part of the distinction between mechanically following a protocol and making a clinical diagnosis of death. Patients who leave the operating room after a surgery are often chemically sedated and paralyzed. If one were to do appropriate DNC testing on these patients, they would meet the criteria by examination. Despite this, they are most certainly not dead. The confounding factor of the sedatives and paralytics make it impossible to declare someone dead despite the fact that the examination is completely consistent with death otherwise.

The same is true for DNC in patients in the intensive care unit. If there are confounding variables such as medications, intoxications, hypothermia, or hypotension, the exam may falsely suggest DNC when the patient is alive.

The approach to the patient who is being evaluated for death should be to ensure that there is not a confounding issue that could render the diagnosis false. This is clearly the job of the physician.

Confounders can be grouped into Five categories:

1. Intoxications/medications that can render a patient to look dead when they are not
2. Homeostatic abnormalities that may make a living patient look dead. The determination of death cannot be performed in a patient who is hypotensive or hypoxic.
3. Challenges to complete an examination necessary to determine if the person is dead
4. Hypothermia
5. Cardiac Arrest with return of spontaneous circulation (ROSC) after resuscitation

1. Intoxications/Medications

Any sedative can make a patient look less arousable than their usual state. When the sedative medicines are applied to brain injured patients, the effects can be magnified. Medicines from home, street drugs, and medicines ordered in the hospital can all confound the diagnosis. It is often difficult to determine if a medication is confounding the diagnosis due to the following factors:

Metabolism

First, we know that depending on the patients condition in the ICU or other medications, they may metabolize sedatives more quickly than normal or more slowly. The metabolism can also be difficult to predict. With some common anticonvulsant medicines, there are case reports of serum drug levels decreasing transiently then increasing again after cessation of the drug.

In addition, a number of factors can affect absorption and metabolism of drugs. Some medications increase or decrease the metabolism of other medications. An example of this, opiate medications can decrease gastric motility and therefore affect the absorption of other medications. Hypothermia prolongs the half life of some drugs. Furthermore, even if one knows the pharmacokinetics of all the drugs in question and how they affect the metabolism of each other, there is much we don't know about the interactions of different medicines particularly in regard to how they combine to cause sedation in the brain.

Unknown Use of Medications

Second, patients who come into the hospital in a coma may have taken medications of which the family or caregivers are unaware. This can lead to very difficult

determinations even if some of the medications are known. For example, some opiates are absorbed less well if the person who ingests them uses cathartic medicines such as cascara sagrada. If the patient has a suspicion of unknown medications, check urine toxicology screen (utox) and serum toxicology evaluation for common drugs of abuse (serum tox).

How to Approach Intoxications/Medications

There is no easy answer to this question. The following are important starting points:

- Determine what medicines are in the patient's system
- Apply knowledge of pharmacokinetics
- Understand the mechanism of injury that caused the coma in the first place
- Caution should prevail when significant unknown factors are present

2. Homeostatic abnormalities

Electrolyte abnormalities, blood ammonia levels, acid-base abnormalities, and hypo- or hyperglycemia can make a seriously brain injured patient appear worse on examination than their brain injury alone would. A careful look at laboratory values is mandatory before declaring a patient dead. The most common abnormalities that may affect level of consciousness are:

- Hypotension
- Hyponatremia
- Hypercalcemia
- Severe acidosis
- Hyper- or hypoglycemia
- Hepatic insufficiency
- Severe renal failure (high BUN and Creatinine)

Occasionally, endocrine abnormalities such as Addison's hypocortisolism and thyroid disease can affect mental status.

How to Approach Homeostatic Abnormalities

Remember that only severe abnormalities will severely affect mental status (a Na level of 135 mmol/L is likely not a problem, a Na of 125 mmol/L is likely to cause significant encephalopathy). Some of these abnormalities are easy to fix with hydration, pressors, or insulin. Because these problems only affect your ability to do an examination, ancillary testing can be very useful in these situations.

3. Challenges to complete an examination necessary to determine if the person is dead

A number of challenges exists that prevents complete examination necessary for brain death testing, including severe facial/head or neck trauma obscuring clinical exam. Chronic CO₂ retention and cervical spine injury may preclude performance of apnea testing. Severe hemodynamic instability or hypoxemia may limit performance or completion of apnea testing. Sometimes, there is uncertainty with the result of neurologic examination due to presence of muscle movement that may or may not be due to spinally mediated reflexes.

Patients in whom all three criteria for diagnosis cannot be met, then ancillary testing is done to confirm the suspicion of death.

4. Hypothermia

At low temperatures, the body's metabolic rate decreases. Consequently, nerve function is affected. As metabolism in the brain decreases, so does blood flow to the brain. This makes the ancillary tests prone to false positives.

How to Approach Hypothermia

Warming the patient is the only way to ensure that the temperature does not confound the diagnosis. Remember that in addition to the suppressive effects of hypothermia on the brain, drug metabolism may be affected by hypothermia.

All hospitals designate a temperature below which DNC determination is not valid. The temperature range set by hospitals is typically between 33° and 36° C but the new American Academy of Neurology practice parameters (2010) define hypothermia as a temperature less than 36° C.

WARNING: Ancillary tests should **NOT** be done for hypothermia.

5. Cardiac Arrest

Initially after successful resuscitation from cardiac arrest, it is common for patients to have absent brainstem function in the initial hours after resuscitation and regain those functions later. For this reason, it is important that there not be a rush to judgment of death based on the examination of a patient early after resuscitation.

Additionally, now that induced hypothermia for 24–48 hours has become the standard of care for patients with cardiac arrest, it makes it very difficult to determine that a patient is dead until after the cooling and rewarming period has past.

DISCUSSING BRAIN DEATH WITH FAMILY

Discussing death with family members is always difficult. It is doubly so when the death occurs while the patient is still on a ventilator and has a beating heart. It is important to have an open line of communication with the family during the patient's illness so that the discussion about death can be in the setting of trust. The discussion of organ donation should be done only with consultation with the FLDRN. FLDRN is the designated requestor for organ donation at Upstate.

The following information will help you when discussing DNC with the families of your patients.

When?

The concept should be introduced when the medical team feels that a discussion of DNC will improve the family's understanding of the patient's condition and prognosis.

Discussing brain death with family members before it is established can be helpful. Initiating discussions with a statement like, "Things do not look good" may help family members to be more receptive of the prognosis. Informing the family by stating, "We will be doing brain death testing soon" can also lessen the shock when the testing has been done. It is important to make sure that the family understands what brain death means.

Who?

Discussing DNC with the family should be done by a team member who:

- Has a good rapport with the family

- Has a full understanding that DNC is no less death than is cardiorespiratory death
- Can maintain a supportive role

It is very important to understand that during the patient's stay in the hospital, the family likely also develops close ties to nurses and other team members. Enlisting their help in discussing the diagnosis can be very helpful. Be very careful to meet with everyone who will be discussing the diagnosis with the family so that there is a consistent message.

Why?

It is a generally accepted duty of medical caregivers to disclose truthful information to the family that will help them to understand the patient's condition, and to provide guidance to them in their roles as medical decision makers.

Problems arise when no one accepts this responsibility or when the discussion is not done in a timely manner. One anecdote from a family highlights this point. A patient was diagnosed dead by neurological criteria in the early morning hours. The clinician diagnosing the patient didn't want to wake the family to break the news. The next morning, the family was very upset and denied the patient was dead. When asked later why they denied the patient was dead, they said that if something as important as death occurred in the middle of the night, they surely would have been notified. If the discussion would have happened immediately, many problems would likely have been avoided.

How?

A good way to approach a discussion with the family of a patient who has been declared DNC is to use the following simple steps:

1. Notify FLDRN that you are going to discuss DNC with the family. Determine whether the person is a candidate for organ donation and how the issue will be introduced with the FLDRN personnel prior to entering the room.
2. Move the family to a quiet, comfortable space.
3. Introduce yourself to everyone in the room (even if you have already met some members of the family).
4. Start the conversation honestly and directly. A good approach is to start with "I am sorry to tell you that your loved one has died." This may seem abrupt, but it is easier to present the truth immediately and explain the nuances later than to start with "I am sorry your loved one is brain dead" and have to answer questions such as "So she really isn't dead yet, right?"
5. Allow the family the opportunity to talk. In surveys of families after discussions about death, the families that had the opportunity to talk were more satisfied with the encounter.
6. Explain that although the patient remains on a ventilator and his/her heart is still beating, when the brain is dead the whole person is dead. The machines we have available in the ICU can obscure that fact.
7. Offer pastoral care or other counseling services.
8. Give them a clear plan of what happens next. Families can be very confused by the fact that their loved one is dead when he/she is still hooked up to machines.
9. During this time, the family may have questions about organ donation. Be sure that you discuss the case with FLDRN personnel and are aware of the usual consent process before discussing organ donation with family. Authorization for donation by the family is more likely if the discussion of brain death is separated from the discussion of organ donation.

Phrases to Avoid

Discussions with a grieving family at the time of death can be very difficult. While the aim of the clinician is to comfort the family, many families are looking for any evidence that their loved one is not really gone. Saying the wrong thing can lead to a very awkward situation where the family takes hope from a phrase not meant to give hope. For this reason, avoid the following phrases when discussing the death of a loved one by DNC with families:

- Life support (the patient is dead; using the words *life* and *support* is contradictory). A better phrase is 'maintaining the body'.
- Withdrawal of support (cannot withdraw support from a dead person; can only stop machines). A better phrase is 'discontinuing the machines'.
- Let them die or let them go (you have to believe they are already dead). A better phrase is 'they are already gone, the body needs a proper burial'.
- The machine is keeping them alive (again, the term *alive* is contradictory). A better phrase is 'the machines are keeping the body functioning even though they are dead'.
- Pulling the plug (this indicates you were supporting life). Pulling the plug has negative connotations even in living patients but because it is so emotionally charged, it can lead to miscommunication.

Family Not Accepting the Diagnosis

The family may be unable to understand or to accept the diagnosis of DNC because of the following contributing factors:

- Lack of trust
- Mixed messages
- Sudden nature of many events leading to brain death

Approaches to the Family Not Accepting the Diagnosis

- Initiate discussions early about the possibility of DNC. Let the family have time to understand the process and diagnosis so that they don't have to react to the final diagnosis all at once.
- Practice patience; give consistent messages in a compassionate manner.
- Consider and respect religious beliefs. Often, consulting a minister, imam, priest, or rabbi from the particular religion may give the clinician a better idea of the underpinnings of the families' hesitance.
- Consider involving clergy or others in whom the family has confidence.
- Ethics consultation can be very helpful for both the clinician and the family to understand the differences leading to the family not accepting the diagnosis.
- Consult your state law. In some states (notably New Jersey and New York), families are allowed to decline to accept DNC.

If a family conflict arises, bioethics consultation can be a valuable resource to help resolve issues concerning the family's understanding of DNC.