

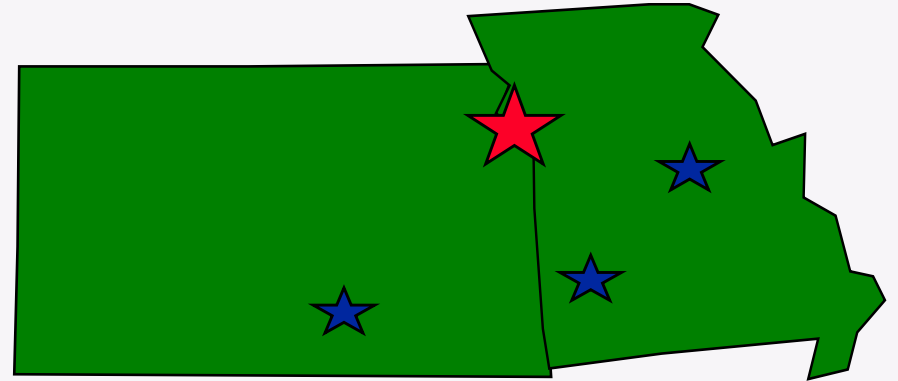
The Respiratory Therapist's Role in Organ Donation

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Midwest Transplant Network

- Organ & Tissue Procurement
- Professional Education
- Donor Family Aftercare
- Community Education
- 24 hour Call Center



CMS Conditions of Participation

- Hospitals must have an agreement with their designated Organ Procurement Organization (OPO)
- An agreement with at least one tissue and one eye procurement organization
- All deaths will be referred to MTN for screening
- All families of potential donors will be offered the opportunity to donate appropriate organs/tissues
- Only Trained Requestors may request donation



Potential Organ Donors

- Referrals from the Hospital ICU and the ED
 - ✓ Age 0-80
- Imminent Death Criteria
 - ✓ GCS of 5 or less, Vented, known or suspected neurological injury
- 24/7 call Center
 - ✓ Basic Screening



Organ Donors

Brain Dead Donor

★ Transplantable Organs

Heart

Lungs

Pancreas

Liver

Kidney

Intestine



Death by Neurological Criteria (Brain Death) Pronouncement

- Must be done by a licensed physician, according to acceptable medical standards
- According to hospital policy
Resident? Timeframes? Patient condition?
- It is the patient's legal time of death



Onsite Evaluation

- Brain Death testing
 - Clinical
 - Must have cause of death
 - Absence of brainstem reflexes
 - Pupils
 - Ocular movement
 - Facial Sensation
 - Tracheal & pharyngeal reflexes
 - Coma
 - Apnea



Onsite Evaluation

- Apnea testing
 - pH 7.35-7.45
 - PCO₂ 35-45
 - Pre-oxygenate
 - Remove vent
 - Use T-piece with 6L blow by
 - Cut NC can cause tension pneumothorax
 - Monitor for respiratory effort for 8-12 minutes
 - Check ABG prior to connection of vent
 - Looking for a rise in PCO₂ of >20 from baseline and >60
- Time of death by neurological criteria
 - Time on the death certificate



Vent Management

- Initial consultation with RT
 - 10 minutes of “playing” to get the right settings
 - Modified SALT
 - PC, IP 25 and wean to achieve 8ml/kg TV IBW
 - Switch to AC/VC+ after recruitment
 - Recruitment maneuvers: 40x40
- Minimal vent settings
 - AC/VC+, 40%, PEEP 8
- O2 Challenge
 - ABGs on 40% & 100%
 - PFR
- Patient positioning
 - Prone



Organ Donors

Donor after Circulatory Death

★ Transplantable Organs

Kidney

Liver

Pancreas



Donation after Circulatory Death (DCD)

- Patient is not brain dead, but has significant brain injury
- Physicians determine nothing more can be done
- Family has made the decision for comfort care to allow natural death
- Eligibility dependent on age and PMH
- DCD tool to determine likelihood of patient passing within 60 minutes
- Organ donation occurs after cardiac death declared



Ethical Cornerstones

- Family must make the decision to shift to comfort measures PRIOR to any discussion of donation
- Hospital physician orders all comfort measures per hospital protocol
- MTN/transplant physicians are not involved in the pronouncement of death



DCD Assessment

- Neuro assessment
- Vital signs, stability
- Vent support
- PIP with cuff inflated and deflated, check for air leak
- CPAP trial
- Possible T-piece trial



Demographics-				Rev. 1/18/10AK	
Referral: 03182013-007	Age: 27	Family Status:			
UNOS:	Gender: M	parents			
	Ht: 70				
	Wt: 72	PACEMAKER:	Yes or No?		
Plan for extubation?					
Neuro Injury:		S/P hanging, anoxia			
CT-impression:		Generalized cerebral			
Down Time: none 10-15 minutes hanging, 8 min CPR					
Evaluation-					
Date/Time-	Describe assessment		Onsite		
	3/20/13 1140				
OBV	0=yes 1=no(if pCO2>40)				0
Pupil					0
Cough					0
Gag					0
Pain					1
Tongue Movm't/Biting					2
Posturing					2
Swallow					0
Corneal					0
				Total	5
				Total #/6 ==>	1
Age	1= 31-50 2= >50				0
BMI	1= 25-29 2= >30				0
Vasopressors - Dop, Levo, Neo, Vaso, Epi					0
	1= 1 2= 2 or more				0
Adult MAP	1= 60-80 2= <60				0
Child Sys BP	1= 60-80 2= <60				0
P/F ratio	pO2/FiO2				2
	1 = 300-250 2 = <250				2
Airway	Trach or ET				2
	1=Trach 2=ET				0
Mean	Airway Pressure				0
	1= 11-17 2= >18				0
PIP with	ET Cuff Inflated				0
	1 = 20-30 2 = >30				2
PIP with	ET Cuff Deflated	RT assist			2
	0 = <10 1 = 11-17 2 = >18	*notify physcian			
<i>If patient becomes unstable STOP and give 2 for remaining eval.</i>					
CPAP	Respiratory rate	RT assist			0
	0= regular 1= <12 or >24 2=<8 or >30	*notify physcian			0
CPAP	AVG TV after 10min	RT assist			0
	0= >4ml/kg 1 = >2ml/kg 2 = < 2ml/kg	*notify physcian			0
Vitals	During CPAP trial	RT assist			0
	0= stable 1=slight change 2=unstable	*verbal consent			
<i>If stable during CPAP discuss with AOC regarding room air exam.</i>				Total Score	5
<i>Document how pt toleratec</i> stable, strong spont cough, shoulders up off bed, opens eyes					
Extubation	3/21/13 1229	Total Time:			
Expired	3/21/13 1457	148 min			

Neurologic Assessment	
0=intact	
1=marginal	
2=absent	

BMI	
wt (kg)	
ht (meters ²)	
in = 0.0254 m	

Evaluation Score	
(to expire in one hour)	
0 to 14	least likely
15 to 22	somewhat
23 to 29	most likely



Transferring the Patient

- EKG electrodes moved to patient's back
- Patient placed on transport monitor
- Continue all drips and medications
- RT travels with patient on vent to location for extubation



Preparing for Extubation

MTN will coordinate timing for extubation

Pronouncing physician and family are in place and ready

Recovery surgeons, preservationists and nurses must be scrubbed and in the operating room ready to receive patient

Consideration for extubation

Suction Availability

Extra Towels

Tactful extubation/shielded for family comfort

Move vent away from bed/does not need to be removed from room



Once Patient is Pronounced

- Patient transferred to Operating Room
Patient Identification: Check ID Band
Positioning: Supine with both arms tucked
Prepping/Draping: Drape for incision(sternal notch to pubis),prep chin to mid-thigh
- 5 minutes after pronouncement, TIME OUT done, pulse checked by 1 MTN staff, 1 hospital staff and recovery surgeon
- Incision made with about 3-7 minutes of dissection before cold perfusion started
- Remaining dissection done after organs are perfused



Why the big Rush?

- Minimize cell death due to lack of O₂
- Very little initial dissection
- Quick cool down and flush with preservation solution
- Best possible outcome for recipients



DCD Differences in OR setup

- No Anesthesia personnel for liver and kidney donation
- No cautery used
- Limited instrumentation
- Slush is needed immediately
- More MTN staff present for transfer and assistance



Case Study

- 61yr old /female
- Unresponsive
- Intubated in the ED
- MRI showed bilateral infarcts
- Pronounced brain dead at 1840
- Authorization at 1900



- Basic vent settings
AC/VC, f-8, PEEP 5, FiO2 40%
- Pre Apnea
7.43/34/292
- Post Apnea
7.21/74/318
- No respiratory effort after 10 minutes



MTN vent changes

- Vent Changes
AC/VC+, PEEP 8, rate & volume for ABG
- Recruitment Maneuvers
Use cautiously, may cause instability
40x40
- Pronation
360 protocol



Additional Testing

- CT chest: Mild interstitial edema, mild basilar atelectasis
- Bronchoscopy: Normal, minimal secretions
- CXR: Minimal atelectasis



Outcome

- Liver recovered, but discarded due to biopsy results
- Bilateral kidneys recovered, but discarded due to biopsy results
- **Bilateral lungs recovered and transplanted into a 51year old male!!!**



Did I forget to mention

- Donor was a 1-1 ½ pack per day smoker for 47 years!!!!!!!



Other Considerations

- Donation is at no cost to the family
- Should not impede funeral arrangements
- Donation may occur even if the ME or family requests an autopsy
- The gift is precious and therefore must be recovered in a timely manner
- Complete process takes several hours
- Follow-up care provided for donor families



Kansas Registry

- WWW.Donatelifekansas.com
- With renewal of Driver's license



Questions ???



Register to be a donor at mwtn.org