Management of Contrast Reactions

FOR ALL CONTRAST RELATED ADVERSE EVENTS

- **CALL CODE BLUE (2-6555 at BWH main campus) or 911** if any indication of airway compromise (increased work of breathing, stridor, cyanosis, new unresponsiveness) or patient's condition does not immediately improve after initial treatment.
- Immediately discontinue contrast injection
- Maintain IV access
- Oxygen by non-rebreather at 10-15L/min until oxygen saturation is determined.
- Monitor patient with pulse oximetry
- Measure Blood Pressure

HIVES/URTICARIA/MILD FACIAL EDEMA
(without evidence of any airway compromise)

- Immediately discontinue medication or contrast injection
- Maintain IV access
- Oxygen by non-rebreather at 10-15L/min
- Monitor patient with pulse oximetry
- Measure Blood Pressure

In most cases, besides close monitoring, no further treatment is necessary

- If patient is symptomatic can give:
    - cetirizine 10mg PO

      OR
    - H1-blocker – Diphenhydramine (Benadryl®) 50 mg PO/IM/IV
    - May add H2-blocker – Famotadine (Pepcid®) 20 mg PO/IV

HYPOTENSION WITH TACHYCARDIA (anaphylaxis)

- **CALL CODE BLUE (2-6555 at BWH main campus) or 911**
- Immediately discontinue medication or contrast injection
- Maintain IV access
- Oxygen by non-rebreather at 10-15L/min
- Monitor patient with pulse oximetry
- Measure Blood Pressure
- Give EpiPen - Epinephrine IM
    - If no EpiPen available or if comfortable giving IV Epinephrine, can administer Epinephrine (code syringe - 1:10,000 dilution) 1-3 ml IV (0.1-0.3 mg) slowly into IV line over 1-2 minutes with IV fluids running

HYPOTENSION WITH BRADYCARDIA – Vasovagal reaction

- Immediately discontinue medication or contrast injection
- Maintain IV access
- Oxygen by non-rebreather at 10-15L/min
- Monitor patient with pulse oximetry
- Measure Blood Pressure
- Legs up 60° or more (preferred) or Trendelenberg position
- Can give IV saline bolus
- If reaction is unresponsive to above maneuvers:
    - **CALL CODE BLUE (2-6555 at BWH main campus) or 911**
    - Consider:
        - Atropine 0.5 mg IV slowly (may repeat in 0.5 mg aliquots up to 3.0 mg total)
        - Give EpiPen - Epinephrine IM
            - If no EpiPen available or if comfortable giving IV Epinephrine, can administer Epinephrine (code syringe - 1:10,000 dilution) 1-3 ml IV (0.1-0.3 mg) slowly into IV line over 1-2 minutes with IV fluids running
        - External Pacing as last resort (if symptomatic and unresponsive to atropine (consider need for sedation with midazolam)

LARYNGEAL EDEMA

- **CALL CODE BLUE (2-6555 at BWH main campus) or 911**
- Immediately discontinue medication or contrast injection
- Maintain IV access
- Oxygen by non-rebreather at 10-15L/min
- Monitor patient with pulse oximetry
- Measure Blood Pressure
- Give EpiPen - Epinephrine IM
    - If no EpiPen available or if comfortable giving IV Epinephrine, can administer Epinephrine (code syringe - 1:10,000 dilution) 1-3 ml IV (0.1-0.3 mg) slowly into IV line over 1-2 minutes with IV fluids running

BRONCHOSPASM

- Immediately discontinue medication or contrast injection
- Maintain IV access
- Oxygen by non-rebreather at 10-15L/min
- Monitor patient with pulse oximetry
- Measure Blood Pressure
- Albuterol 1-2 puffs via nebulizer. Can repeat up to 3 times.
- If not improving with inhaled bronchodilator
    - **CALL CODE BLUE (2-6555 at BWH main campus) or 911**
    - Give EpiPen - Epinephrine IM
        - If no EpiPen available or if comfortable giving IV Epinephrine, can administer Epinephrine (code syringe - 1:10,000 dilution) 1-3 ml IV (0.1-0.3 mg) slowly into IV line over 1-2 minutes with IV fluids running

HYPERTENSIVE EMERGENCY (Severe hypertension with associated: altered mental status/neurological focality, cardiogenic chest pain, and/or acute pulmonary edema)

- **CALL CODE BLUE (2-6555 at BWH main campus) or 911**
- Immediately discontinue medication or contrast injection
- Maintain IV access
- Oxygen by non-rebreather at 10-15L/min
- Monitor patient with pulse oximetry
- Measure Blood Pressure
- Continue non-invasive monitoring of blood pressure every three minutes
- May consider:
    - Nitroglycerine 0.4mg tablet, sublingual (may repeat x3)
    - Labetalol (Trandate®) 20 mg IV over 2 minutes (may repeat in 10 minutes)

SEIZURES/CONVULSIONS

Most seizures represent non-life threatening emergencies; particularly in those with known seizure history. Life-threats are due to injuries sustained during the event, airway compromise during or immediately after the event, or status epilepticus (prolonged or repetitive seizures). When considering pharmacologic treatment for emergent seizures, one should consider time of arrival of responding advanced help.

- Protect patient from injury
- Place placing patient into lateral decubitus position
- Immediately discontinue medication or contrast injection
- Maintain IV access
- Oxygen by non-rebreather at 10-15L/min
- Monitor patient with pulse oximetry
- Measure Blood Pressure
- If seizure persists:
    - **CALL CODE BLUE (2-6555 at BWH main campus) or 911**
    - Consider diazepam (Valium ®) 5.0 mg or midazolam (Versed ®) 2.5 mg IV

ACUTE PULMONARY EDEMA

- **CALL CODE BLUE (2-6555 at BWH main campus) or 911**
- Immediately discontinue medication or contrast injection
- Maintain IV access
- Oxygen by non-rebreather at 10-15L/min
- Monitor patient with pulse oximetry
- Measure Blood Pressure
- Elevate torso
- Consider
    - Nitroglycerine 0.4 mg tablet, sublingual (may repeat x3)
    - Furosemide (Lasix ®) 40 mg IV, slow push

Contrast Reaction Kits are located anywhere contrast is administered

Drug Reaction Kit includes:

Units

1 atropine 1mg/10ml syringe
1 albuterol 2.5mg/3ml nebulizer
1 diphenhydramine 50mg/2ml vial
1 epinephrine 0.3 syr (epi-pen)
1 hydrocortisone 100mg vial
1 nitroglycerin 0.4mg tablet
1 pepcid 20mg IV premix bag
1 sodium chloride 0.9% 10ml vial
1 sterile water 10ml vial
2 diphenhydramine 25mg tabs
2 cetirizine 10mg PO