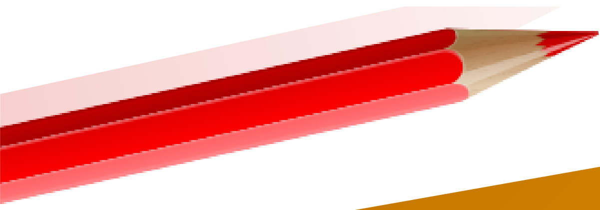


TravCon 2023

Pediatric Pearls

Treating Kids Without Trauma

Jennifer L. George, RN CEN

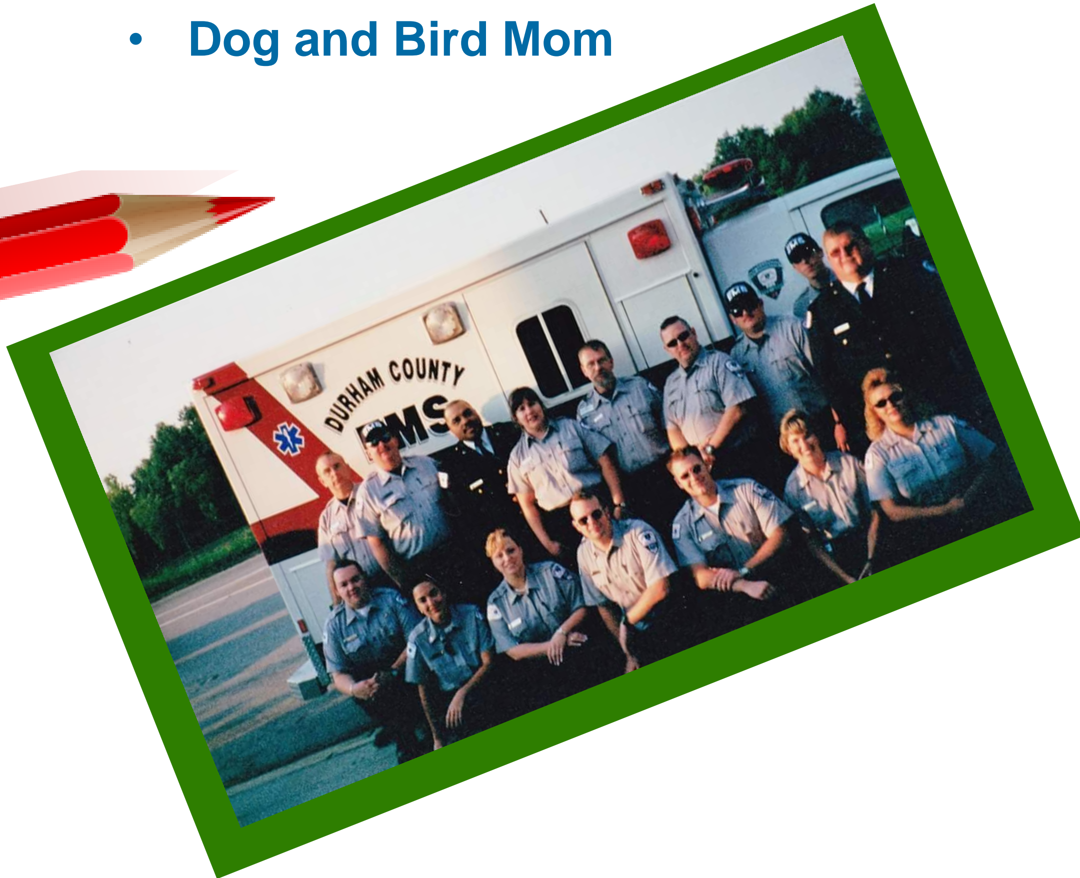
- Board Certified Emergency Nurse
- 16+ years as a Traveling Nurse
- 4 years dedicated Peds ED Nurse

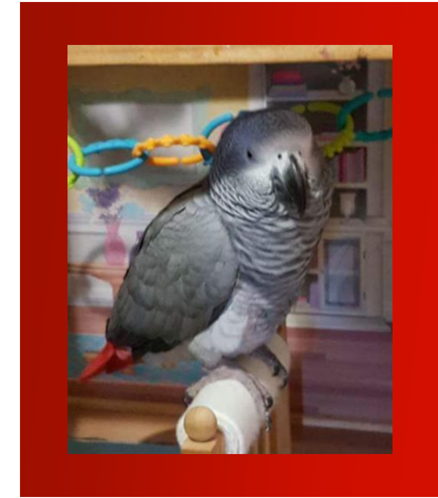
Watts School of Nursing
May 2005

WATTS College of Nursing
Affiliated with Duke University Health System

More about me….

- 12+ years as Firefighter/Paramedic
- Married
- Dog and Bird Mom





Objectives

- Nurses' Fears of Pediatric Care
- Recognizing "sick"
- Emergency Conditions to Watch out for
- IV start Tips and Tricks
- Giving Meds Effectively
- Reducing Children's Trauma from Healthcar
- Child Life Specialist Introduction
- "One Voice" Approach to Pediatric Care

Nurses' Fears

"I have a Pediatric Patient??"

"How do I know they are sick before they decompensate?"

"Their veins are too small to feel for IV sta

"The parents watch everything!"

"I can't make them stop crying"

How do I get them to take medicine?

I don't feel confident drawing up meds for babies!

Initial Assessment

- Always look without touching first
- Does the child look fully awake, playful, relaxed, and comforted easily?
- Is the breathing TOO FAST or TOO SLOW?
- Is the child nasal flaring? Are there retractions? Is there abnormal noise?
- Use your parents to comfort if child is nervous
- Use play or distraction techniques so you can really assess
- Cyanosis?

Initial Assessment

- Use your tools – place pt on cardiac monitors, pulse ox.
- Listen to Lung Sounds
- Check Capillary Refill
- Is the Heartrate TOO FAST or TOO SL
- Open Mouth and assess for moisture
- Palpate Abdomen
- Look at Toes and Fingers

Questions for Parent/Caregiver

- What is different today?
- Does your child look different to you?
- (Neonates) How many weeks gestation?
- (Neonates) Any NICU time?
- (Neonates) Any Congenital Issues?
- Is the Child Vaccinated? Delayed or Up to Date?
- How many wet diapers / voids in last 12 hours?
- Eating and drinking as normal?
- Did you give any medication at home?
- Does your child have any Special Needs at Baseline?
- Been hospitalized before? What works for Distraction?

Involve Parents

- They know their child best
- Parents May be just as Nervous as the Child.
- Use opportunity to Educate – Suctioning, Antipyretics, Humidifiers
- Tell the Parents what you are Looking for on Assessment

Usually, the Parents are Thankful for your Care !

Common Complaints

- Fever
- Cough
- Abdominal Pain / NVD
- Febrile Seizure
- Asthma Flare
- Rash
- Lacerations

Emergencies

- Fever in Neonate
- Fever with Sickle Cell Disease
- Stridor at Rest
- Intussusception
- Infantile Spasms
- Hair Tourniquet
- Apnea, Retractions, etc

IV access

- Use Your Tools !!
- Have a Buddy
- Use Pain Management / Distraction
- Don’t go deep
- Secure It !!
- Check it Hourly if IVF running

Tips on Giving Medications

- **Ask MD for order alternatives:**
  - Decadron Injectable to be given oral INSTEAD OF Prednisolone
  - Zofran ODT INSTEAD OF Zofran Liquid
  - Tylenol Suppository INSTEAD OF Tylenol PO for the "Spitters"

- **Pediatric Specific Meds:**
  - Versed, Fentanyl, Narcan by Intranasal Atom
  - Inhaler used with Spacer
  - Racemic Epi Neb

General Peds Meds

Tylenol – 15 mg/kg -- Max 650
Ibuprofen – 10 mg/kg -- Max 600

IBUPROFEN

TYLENOL

TYLENOL

IBUPROFEN

Pediatric Vital Sign Normal Ranges

Age Group	Respiratory Rate	Heart Rate	Systolic Blood Pressure	Weight in kilos	Weight in pounds
Newborn	30 - 50	120 - 160	50 - 70	2 - 3	4.5 - 7
Infant (1-12 months)	20 - 30	80 - 140	70 - 100	4 - 10	9 - 22
Toddler (1-3 yrs.)	20 - 30	80 - 130	80 - 110	10 - 14	22 - 31
Preschooler (3-5 yrs.)	20 - 30	80 - 120	80 - 110	14 - 18	31 - 40
School Age (6-12 yrs.)	20 - 30	70 - 110	80 - 120	20 - 42	41 - 92
Adolescent (13+ yrs.)	12 - 20	55 - 105	110 - 120	>50	>110

Critical Medications

Use Broselow Tape

More than just Cardiac Arrest Meds

No IV Quick Access Meds

mLs	3 Kg	4 Kg	5 Kg	Pink	Red	Purple	Yellow	White	Blue	Orange	Green	DOSE
ANAPHYLAXIS												
IM EPI (1 mg/mL)	0.03 mL	0.04 mL	0.05 mL	0.07 mL	0.09 mL	0.1 mL	0.13 mL	0.17 mL	0.21 mL	0.27 mL	0.33 mL	0.01 mg/kg Max 0.5 mg
Epi Auto-injector	N/A	N/A	N/A	N/A	N/A	0.15 mg	0.15 mg	0.15 mg	0.15 mg	0.3 mg	0.3 mg	10-25 kg: 0.15 mg >25 kg: 0.3 mg
SEIZURES												
Rectal Diazepam 5 mg/mL	0.3 mL	0.4 mL	0.5 mL	0.65 mL	0.85 mL	1 mL	1.3 mL	1.7 mL	2 mL	2 mL	2 mL	0.5 mg/kg Max 10 mg
Nasal & IM Midazolam 5 mg/mL	0.12 mL	0.16 mL	0.2 mL	0.26 mL	0.34 mL	0.42 mL	0.52 mL	0.66 mL	0.84 mL	1 mL	1.3 mL	0.2 mg/kg
WHEEZING												
Albuterol Nebulized 0.83 mg/mL	2.5 mL	2.5 mL	2.5 mL	2.5 mL	2.5 mL	5 mL	5 mL	5 mL	5 mL	5 mL	5 mL	<10 kg: 2.5 mg >10 kg: 5 mg
Albuterol Nebulized 5 mg/mL	0.5 mL	0.5 mL	0.5 mL	0.5 mL	0.5 mL	1 mL	1 mL	1 mL	1 mL	1 mL	1 mL	(Dilute the 5 mg/mL in 3 mLs of respiratory saline solution)
DOSE in Milligrams												
IM EPI	0.03	0.04	0.05	0.07	0.09	0.1	0.13	0.17	0.21	0.27	0.33	
Rectal Diazepam	1.5	2	2.5	3.25	4.25	5	6.5	8.5	10	10	10	
Nasal/IM Midazolam	0.6	0.8	1	1.3	1.7	2.1	2.6	3.3	4.2	5	6.5	
Albuterol	2.5	2.5	2.5	2.5	2.5	5	5	5	5	5	5	

Critical Medications

<u>Fast and Accurate dosing:</u>
Stopcock to end of Bristow jet to smaller syringe

Critical Medications

- **Adenosine** — First dose: 0.1 mg/kg (MAX DOSE 6 mg)
  Second dose: 0.2 mg/kg (MAX DOSE 12 mg)
- **Amiodarone** — 5 mg/kg over 20 to 60 minutes
  Repeat up to 15 mg/kg (MAX DOSE 300 mg)
- **Atropine** — 0.02 mg/kg (MAX single dose 0.5 mg)
- **Epinephrine** — IV/IO: 0.01 mg/kg [1:10,000] (MAX DOSE 1 mg)
  Repeat every 3 to 5 min if needed
- **Lidocaine** — Initial: 1 mg/kg
  Infusion: 20 to 50 mcg/kg/min (MAX DOSE 100 mg)

Critical Medications

- Sodium Bicarbonate 1 mEq/kg slow bolus (MAX DOSE 50 mEq)
- Magnesium Sulfate 20 to 50 mg/kg over 10 to 20 min (MAX DOSE 2 grams)

  May run faster for Torsades
- Naloxone Less than 5 y/o OR under 20 kg: 0.1 mg/kg

  Over 5 y/o OR over 20 kg: 2 mg IV q 2 to 3 min prn

Critical Medications

Check Blood Glucose on Vomiting and Seizure patients!!

- <u>Glucose</u> Hypoglycemia 0.5 to 1 g/kg
  Newborn: 5 to 10 mL/kg D10W
  Infants/Children: 2 to 4 mL/kg D25W
  Adolescents: 1 to 2 mL/kg D50W

Other important numbers

Equipment	GRAY* 3-5 kg	PINK Small Infant 6-7 kg	RED Infant 8-9 kg	PURPLE Toddler 10-11 kg	YELLOW Small Child 12-14 kg	WHITE Child 15-18 kg	BLUE Child 19-23 kg	ORANGE Large Child 24-29 kg	GREEN Adult 30-36 kg
Resuscitation bag		Infant/child	Infant/child	Child	Child	Child	Child	Child	Adult
Oxygen mask (NRB)		Pediatric	Pediatric	Pediatric	Pediatric	Pediatric	Pediatric	Pediatric	Pediatric/ adult
Oral airway (mm)		50	50	60	60	60	70	80	80
Laryngoscope blade (size)		1 Straight	1 Straight	1 Straight	2 Straight	2 Straight	2 Straight or curved	2 Straight or curved	3 Straight or curved
ET tube (mm)[†]		3.5 Uncuffed 3.0 Cuffed	3.5 Uncuffed 3.0 Cuffed	4.0 Uncuffed 3.5 Cuffed	4.5 Uncuffed 4.0 Cuffed	5.0 Uncuffed 4.5 Cuffed	5.5 Uncuffed 5.0 Cuffed	6.0 Cuffed	6.5 Cuffed
ET tube insertion length (cm)	3 kg 9-9.5 4 kg 9.5-10 5 kg 10-10.5	10.5-11	10.5-11	11-12	13.5	14-15	16.5	17-18	18.5-19.5
Suction catheter (F)		8	8	10	10	10	10	10	10-12
BP cuff	Neonatal #5/infant	Infant/child	Infant/child	Child	Child	Child	Child	Child	Small adult
IV catheter (ga)		22-24	22-24	20-24	18-22	18-22	18-20	18-20	16-20
IO (ga)		18/15	18/15	15	15	15	15	15	15
NG tube (F)		5-8	5-8	8-10	10	10	12-14	14-18	16-18
Urinary catheter (F)	5	8	8	8-10	10	10-12	10-12	12	12
Chest tube (F)		10-12	10-12	16-20	20-24	20-24	24-32	28-32	32-38

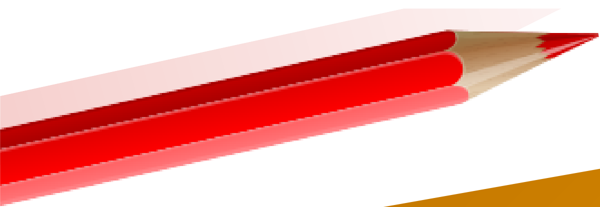
DEFIBRILLATION / CARDIOVERSION IN INFANTS AND CHILDREN *BIPHASIC / EXTERNAL PADS*
DEFIBRILLATION: (Ventricular Fibrillation & Pulseless Ventricular Tachycardia)
1-2 J/Kg (Max 200 J) = 1st and 2nd Energy Doses
2-4 J/kg (Max 200 J) = 3rd and Subsequent Energy Doses
SYNCHRONIZED CARDIOVERSION: (Ventricular Tachycardia, Unstable SVT, Afib, Aflutter)
0.25–0.5 J/kg (Max 100 J Sync) = 1st Energy Dose
1-2 J/Kg (Max 200 J Sync) = 2nd and Subsequent Energy Doses

Urine Output – 1-2 ml/kg/hr

IVF Bolus – 20 ml/kg

Rule of 9s for Burns

Poison Control – 1-800-222-1222



Part 2

Reducing Children's Healthcare Trauma

Treating Kids Without Trauma

ImaginationTime !

How Was That?

Did you trust the Nurse?
Did you trust your parent?
Did you have any control?

Children are very concrete thinkers.
They believe things will last forever

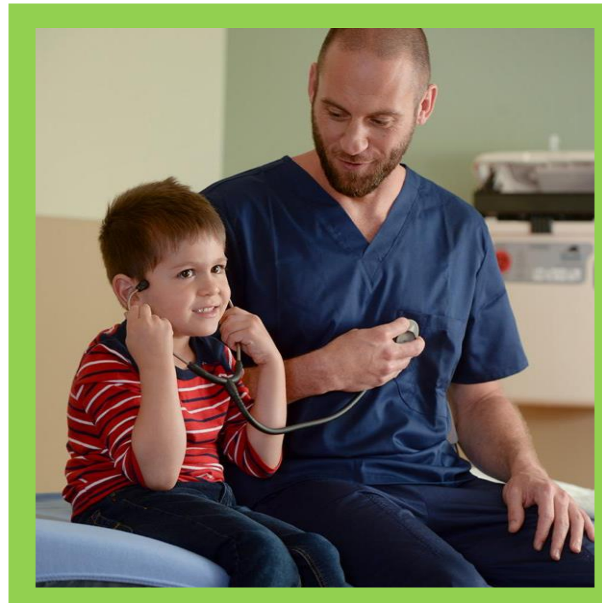
Let's Do it better!

- Parents to Hold / No papoose
- Use words they understand
- Show Procedures on Doll
- Let them Touch Equipment
- No surprises / Be Honest
- Use Numbing Medicines if Possible

Gain Trust

- Take Extra Time
- Get on Their Level
- Give Choices
- Involve Parents

- Use Play
- Demonstrate skills
- Call ChildLife Specialist



Train Parents

Parents can add to trauma also:

“Stop crying”
“It doesn’t hurt”
“It isn’t scary”
“Please take your medicine”
“If you don’t stop the nurse will give you a shot!”
“I should just have them cut your ear off” (Yup, this is really what Dad said!!)

"Can you hop on one foot? Show me!"

"You can choose which arm I use"

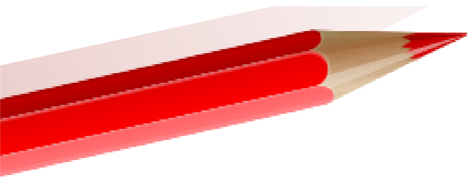
"What are you afraid of the most?

"Let's play the Statue Game"

"Magic medicine on this bandaid to make your boo-boo feel better"

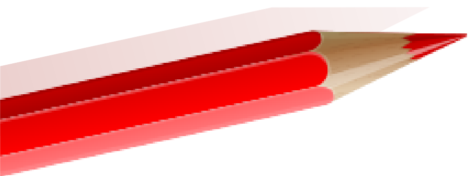
"Take a deep breath and then pretend you are blowing out all the birthday candles"

Holding vs Papoose



Healthcare Terms

- **IV – straw**
- **Tourniquet – Rubber band**
- **Numbing – Magic medicine makes skin sleepy**
- **Xray – picture / selfie**
- **ODT – melts like candy**



Use the Terms

START AN IV

“I know you heard the doctor talking to your pa
explain the next steps. I promise we won’t do anything without telling you first.

I need to put a straw here so we can give you medicines and water.

(Show an IV catheter OR an IV in a stuffed animal etc.)

I will be putting a rubber band on your arm. You want to touch it?

After I tie it there, I will touch your arm a bunch.

I will use this Magic medicine to make your skin a little sleepy right here.

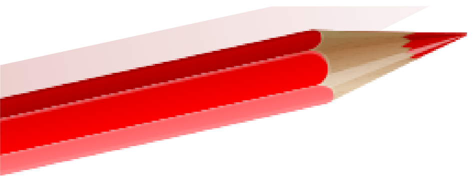
Once it is sleepy, you shouldn’t feel anything sharp.

Then I will rub it with this cold swab. It just cleans your arm.

Do you know what a statue is? Your job is to be really still like a statue.

You can count while I do my job. I will be putting a straw here, Then I will put stickers on and we are all done.”

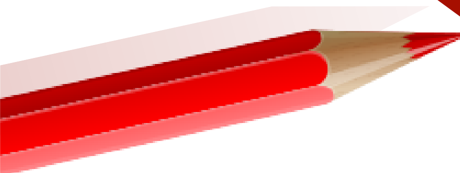
One Voice Approach



One Voice should be heard during the procedure
Need for parental involvement
Educated the patient before the procedure

Validate Child with your words
Offer the most comfortable non-threatening position
Individualize your game plan
Choose appropriate distraction to be used
Eliminate unnecessary people not actively involved

One Voice Approach



Less Trauma

Treating children really can be done without trauma to the child or the nurse! Hope you learned something and can encourage other healthcare workers to feel more comfortable with these approaches as well !

Thank You!

Jennifer George, RN, CEN

Sources

Dagan R, Powell KR, Hall CB, et al. Identification of infants unlikely to have serious bacterial infection although hospitalized for suspected sepsis. J Pediatr 1985;107:855-860.

Mayoral CE, Marino RV, Rosenfeld W, et al. Alternating antipyretics: Is this an alternative? Pediatrics 2000;105:1009-1012.

Donate-Bartfield E, Passman RH. Establishing rapport with preschool-age children: Implications for practitioners. Children's Health Care 2000;29:179-188

Hemmelgram AL, Glisson C, Dukes D. Emergency room culture and the emotional support component of family-centered care. Children's Health Care 2001;30:93-110

Culberton JL, et al. Childhood and adolescent psychologic development. Pediatr Clin North Am 2003;50:741-764

Rosen P, Barkin R, et al. Emergency Medicine: Concepts and Clinical Practice. Mosby-Year Bo Inc.:St. Louis;1998: 1093-1096.