

The Comfort Oriented Patient Experience

Help Patients
COPE Better with **Buzzy**

BEE empowered!



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Untreated Pain Needles

- Venipuncture
 - Worst pain other than disease
 - Most common procedure
- Needle Phobia
 - Develops age 4-5
 - Can be classically conditioned

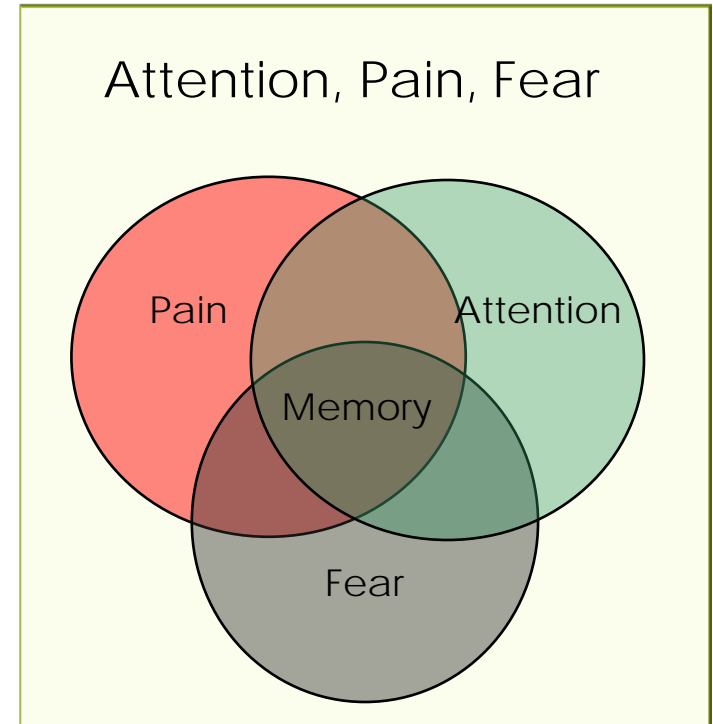


Cummings EA. Pain 1996;68(1):25
Hamilton JC. J Fam Prac 1995 41:169

Patient Experience

It's not just the pain!

- Customer dissatisfaction
 - Pain management #1 patient satisfaction issue
- Needle fear is increasing; dread and shame affect compliance
 - 1995: Adults 10% Children 25%
 - 2012: Adults 26% Children 63%
- Vasovagal response
 - 3-5% of population; genetic
- Pain management costs
 - Creams 10x expensive
 - Creams, vapocoolant spray can vasoconstrict



- Memory of experience -> satisfaction
- Decrease anticipatory fear, improve pain, and add distraction for positive experience.

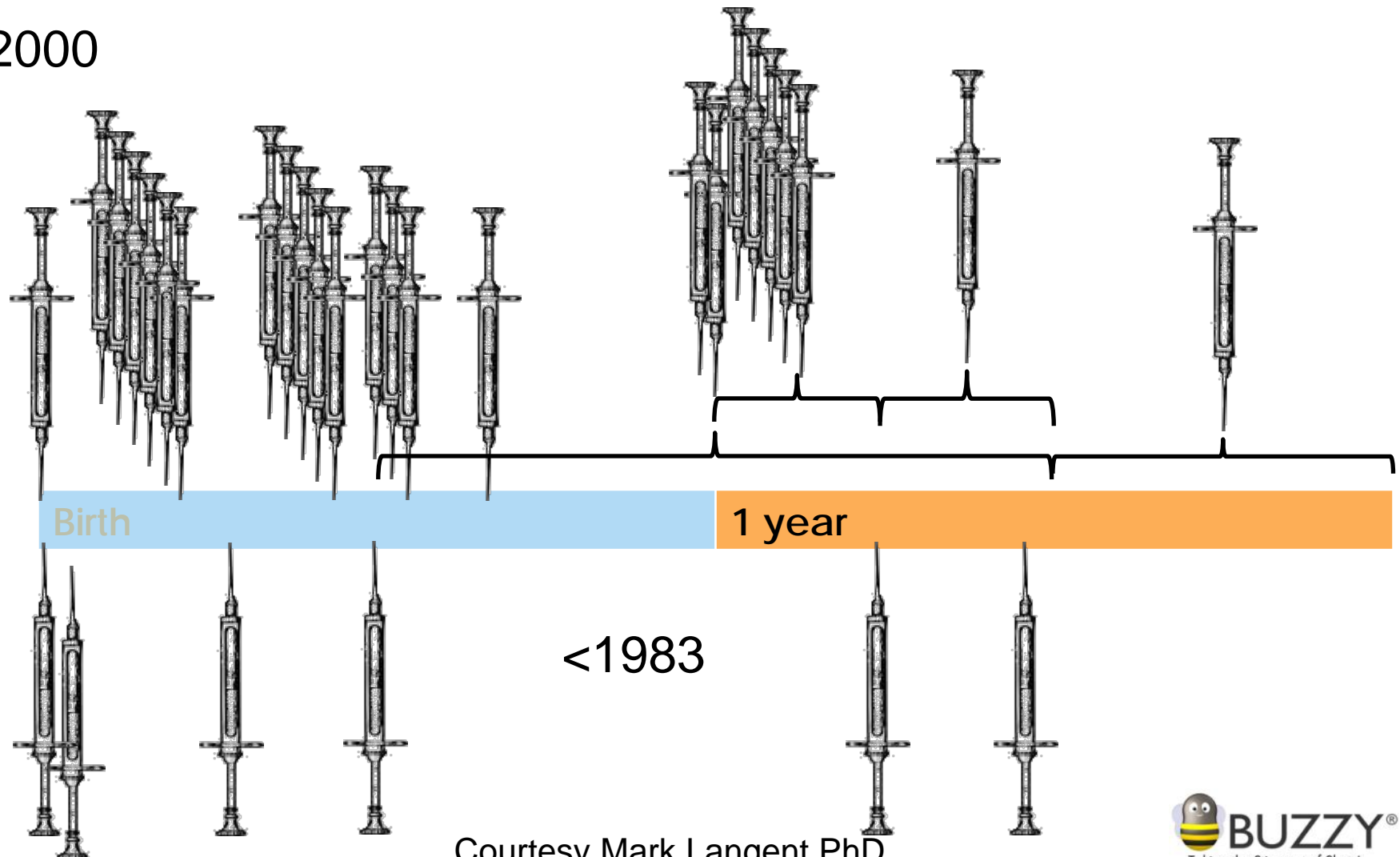
How do you feel about needles?



Were you born before 1983?

Your shot experience was very different from children born today.

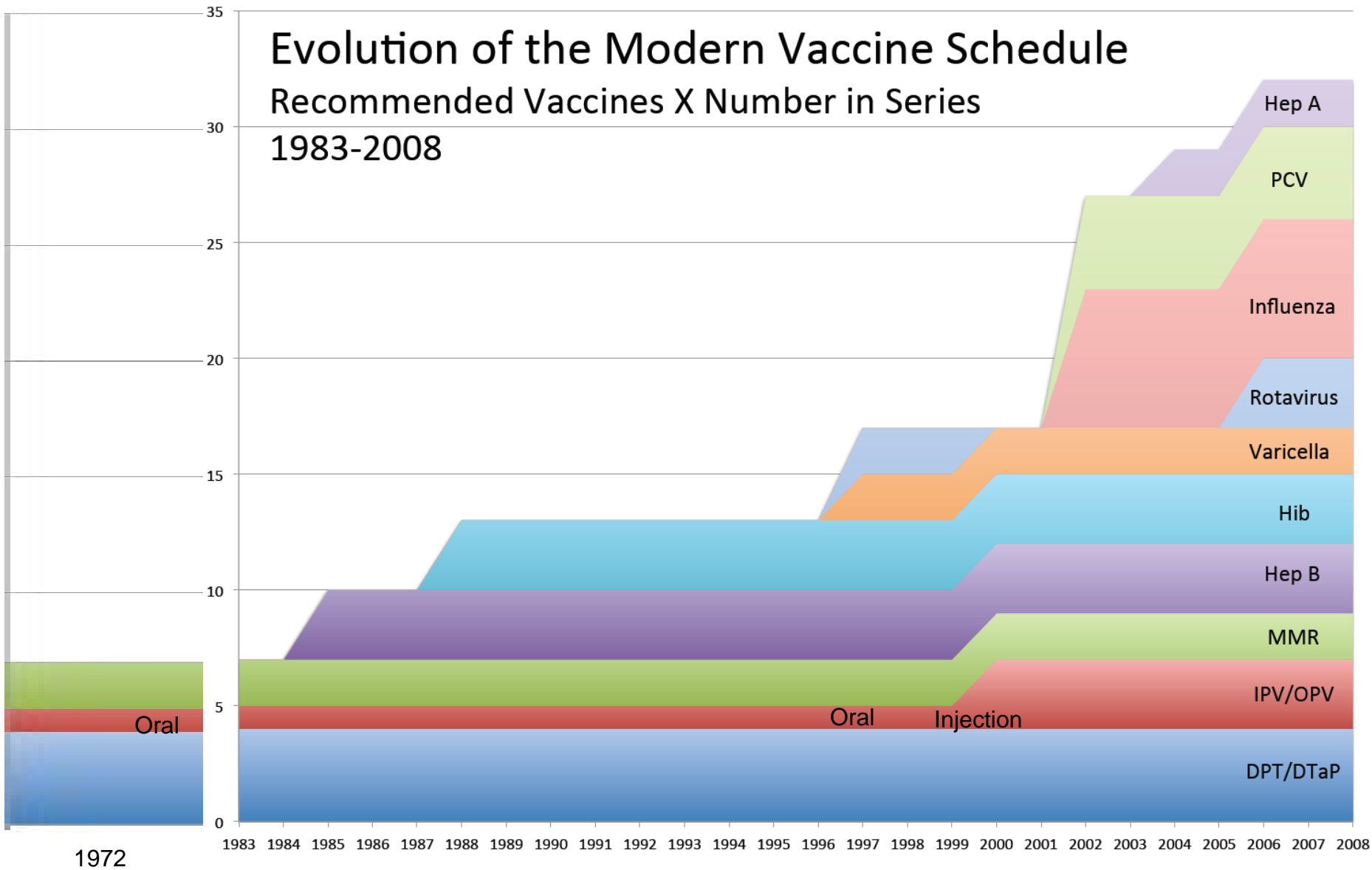
2000



Courtesy Mark Langent PhD

Evolution of the Modern Vaccine Schedule

Recommended Vaccines X Number in Series 1983-2008



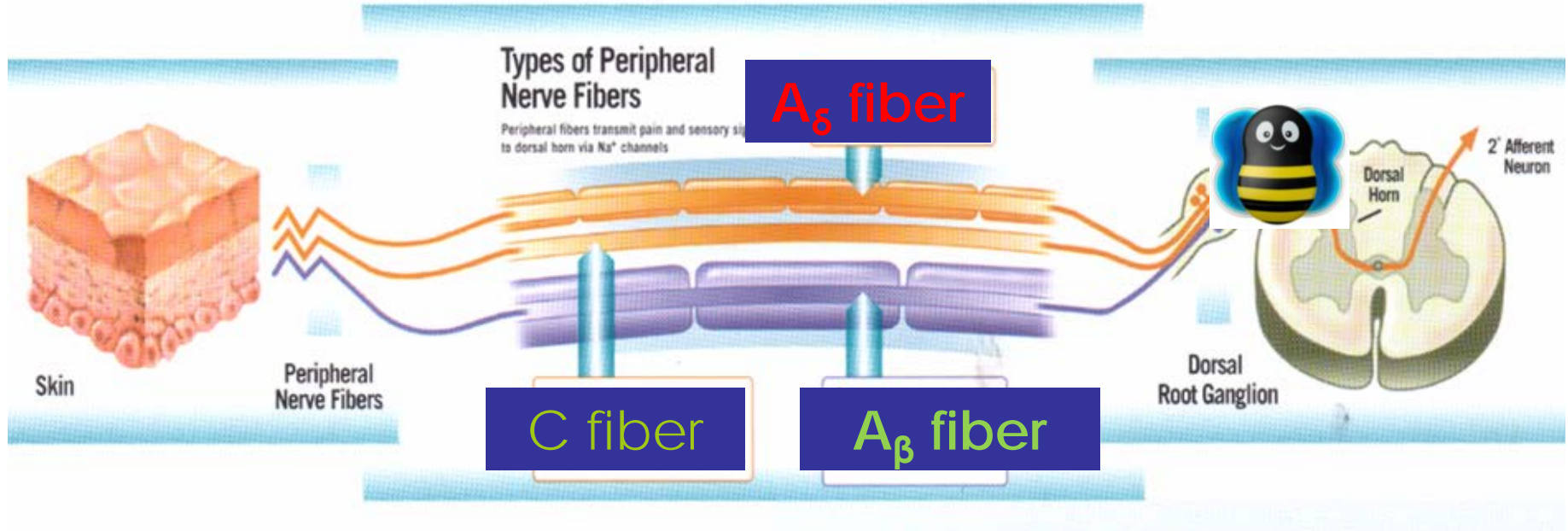
1972

Patients and IV Pain

- 65% willing to stay an hour for painless IV
- 77% willing to pay \$15
- 37% willing to pay extra \$100
- Parents' reaction to pain
 - 53% of child distress
 - 17% infant distress
 - 100% satisfaction surveys

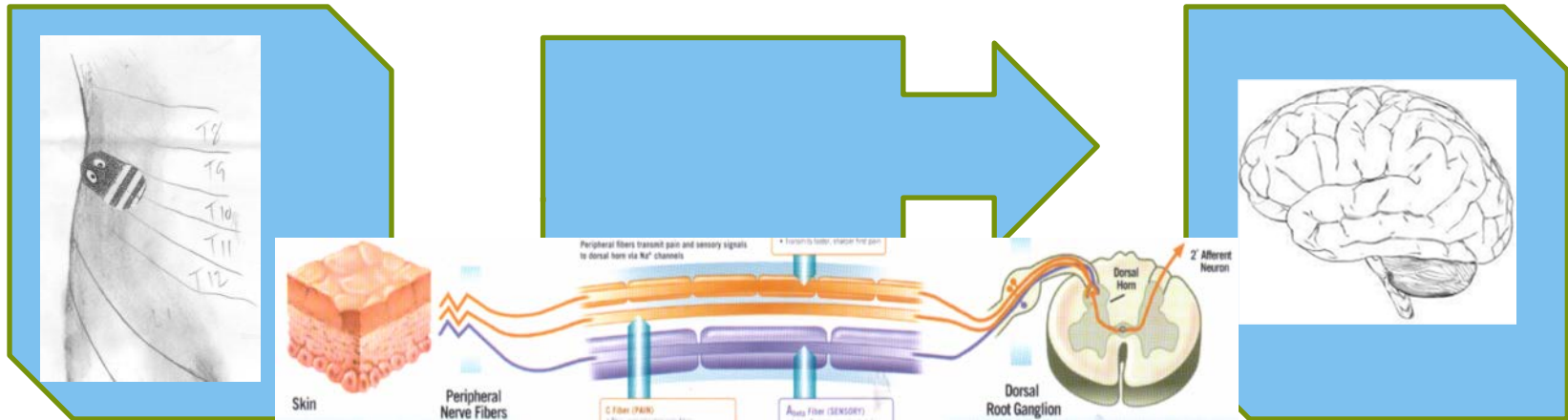
Patient Experience

PAIN



- A δ fibers transmit fast pain
- C Fibers are small slow transmitters of aches and cold
- A β fibers are huge and fast – they transmit vibration

Nerve Signals are Transmitted in Territories Dermatomes



Courtesy of Shriners' Childrens Hospital
Louanne Lunny, MLS(ASCP)cm

Buzzy® Needs to Go “Between the Pain and the Brain” for Vibration to be Effective



Courtesy of Shriners' Childrens Hospital
Louanne Lunny, MLS(ASCP)cm

Patient Experience

PAIN



Ice also blocks pain from the brain down



- In older kids and adults, the brain sends blocking signals down to inhibit unpleasant sensations, like cold.
- “Descending Noxious Inhibitory Control”
- Buzzy blocks signals going up, and in 15-30 seconds inhibits pain from above

What Does Buzzy® Do???

- Buzzy is a vibrating case with an optional ice pack that fits below an elastic band.
- By stimulating A-beta vibration and C fibers with cold, Buzzy desensitizes skin, replacing sharp pain sensations.



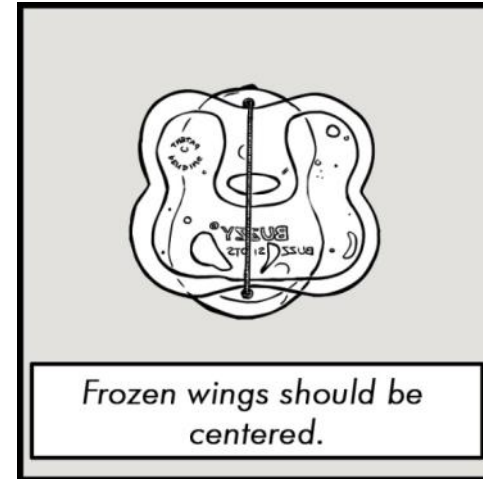
What Comes with Buzzy®?

- Instructions, Two AAA Batteries
 - Buzzy will last about 20 hours with enough “oomph” to decrease pain, but the batteries will keep going up to 30 hours. Change the batteries when they wimp out!
- Blue Gel Wings or White Ice Wings
 - Clean blue between patients
 - White-sided wings are disposable, only for one patient



How Do I Use the Ice Packs?

- ❑ Fold in half and freeze them solid
 - ❑ Wings freeze in about 30 min
 - ❑ Tip: If not frozen, don't use (squishy wings absorb vibration)
- ❑ Wings go under the elastic strap.
- ❑ A tissue under the blue multipatient ice pack will make it less cold for sensitive patients.
- ❑ Ice is 60% of numbing



Venipuncture Procedure

- Apply tourniquet if applicable
 - Through Buzzy slot or
 - Tuck Buzzy under
- Place Buzzy 2-5 cm proximal to site
- Place wider end of Buzzy closest to pain.
 - Head of Buzzy closer to patient's head during procedures



Best numbing is directly distal from the center of the Buzzy where the motor is.

Venipuncture

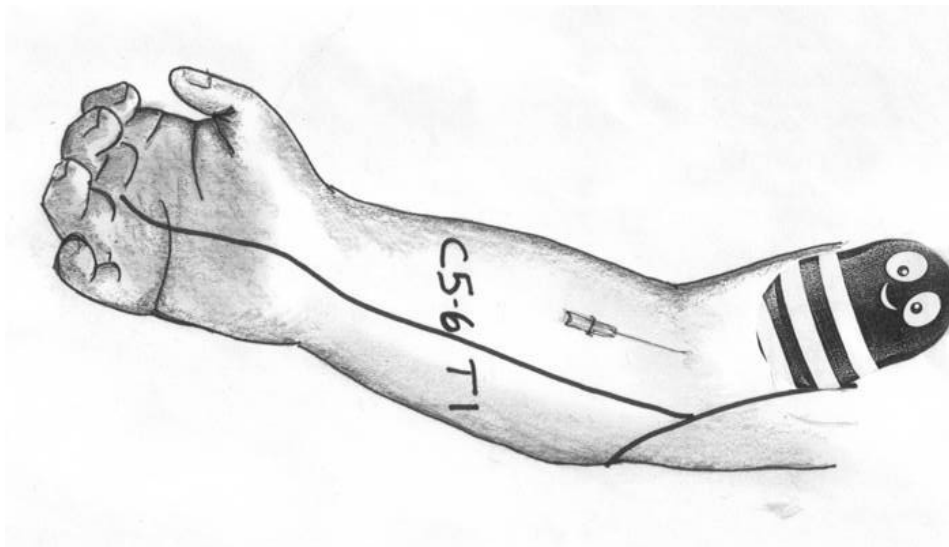
Turn Buzzy on at least 30 seconds before procedure

Clean site per protocol

Leave Buzzy activated until procedure complete

Remove Buzzy

Clean Buzzy, cold pack and strap with Sani-Wipe



Courtesy of Shriners' Childrens Hospital
Louanne Lunny, MLS(ASCP)cm

Venipuncture Tips

- Put Buzzy **directly** above the site of insertion and in same dermatome
- If using Buzzy for vasodilation, ice not required



<- Not optimal. Buzzy's motor is a little off-center from site

Much better -> Buzzy's motor is closer and directly above poke



Patient Experience

Attention



Distraction

- Proven for phlebotomy to reduce pain by 50%
- Caregiver asks memorized questions or parent reads questions on the back while patient looks at design
- Badge cards or poster size
- English and Spanish questions

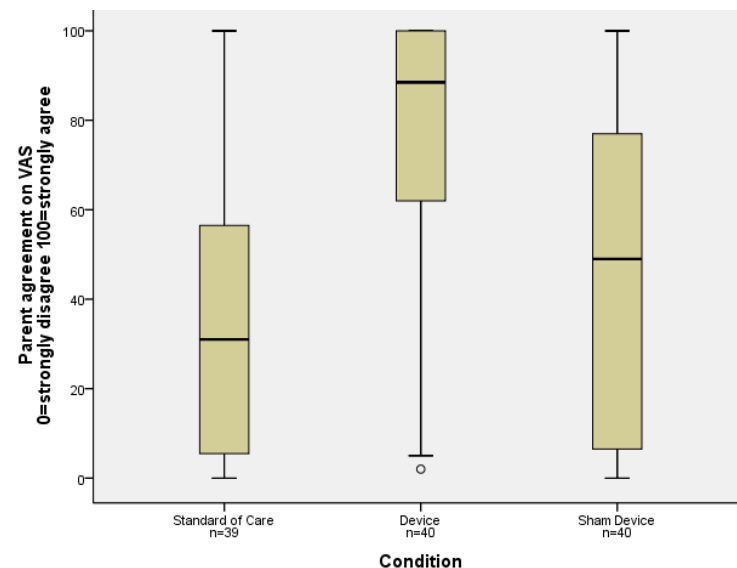


Patient Experience Memory

123 patients 6-12 Y

- DistrACTION reduced pain 3.9 v. 6.51 $p < .001$
- DistrACTION reduced fear 1.34 v. 3.3 $p < .001$
- Compared to previous
 - DistrACTION: **96.7% less painful**, 3.3% same
 - Standard: 0% less, 88.7% same, 11.3% more

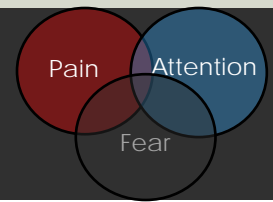
Parents of Teens



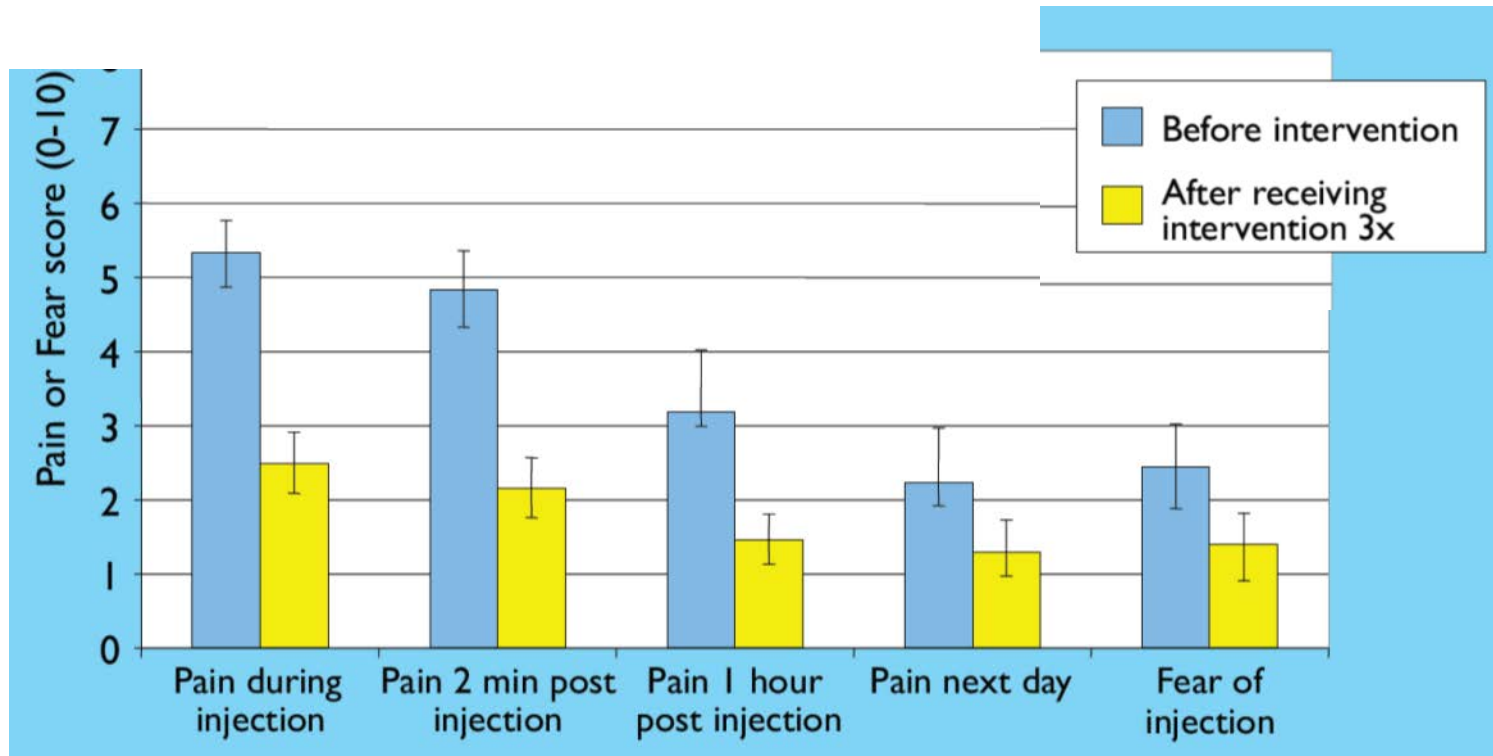
"I believe my child had less pain today than previously."

Patient Experience

Fear



405 nonadherent patients



Patient Experience Adults

Pain and Needle Fear

Buzzy v. Vapocoolant

- Increased anxiety correlated with improved pain relief
- Buzzy significantly decreased pain; cold spray did not
- IV success 3x compared to standard
- Buzzy vasodilates

Vasovagal response

- "I am 37 years old; I tried Buzzy out yesterday while having my blood drawn. Let me tell you that I am amazed at this product. I had no idea that she had even stuck me yet and by the time I was done talking with the nurse she had already drawn 5 vials of blood and we were finished. I usually pass out and the nurses can not finish taking my blood. This is a huge step in life for me." – Matthew Swint
- "I have fainted every time I've had an IV in recent memory, including for 3 c-sections in the last 5 years. I was very worried about fainting again. This time, I used Buzzy at the IV site (the nursing staff was very agreeable, given my history of fainting) and I didn't faint! I was so relieved." -Jennifer T.
- "I have had a very severe needle phobia since I was fairly young. I am now in my 30s and often avoided medical tests due to my fear. When we went to the lab they told me I would need to have 7 vials drawn (eek!!) I strapped on Buzzy with his blue wings and laid down. I was AMAZED!! I barely felt the needle stick ! I didn't get dizzy or hot or have my regular vasovagal reaction." – Chelsea R.

Buzzy® Phlebotomy Research

- Inal S, Kelleci M. Relief of pain during blood specimen collection in pediatric patients. *Journal of Maternal and Child Nursing*, 2012 Sep;37(5):339-45.
- Baxter AL, Cohen LL, Von Baeyer C. An Integration of Vibration and Cold Relieves Venipuncture Pain in a Pediatric Emergency Department. [Pediatr Emerg Care, 2011 Dec;27\(12\): 1151-6.](#)
- Miller D, Pasek T. Buzzy in the Emergency Department: A Novel Pain Relief Device for Children. University of Pittsburgh Trauma Symposium, Pittsburgh, PA October 2011
- Baxter AL, et al. Pilot data on a novel device. *Clin J Pain*, 2009 October ;25(8):705-10.
- Lie D, Minimizing needle pain: a new device may help. 2010 <http://www.medscape.com/viewarticle/732185>
- In progress: CHOP – Buzzy v. LMX; UK v EMLA

Won't the Cold Vasoconstrict?

- When placed proximal, warm venous blood is flowing **toward** Buzzy's cold rather than away toward the area to be accessed. Do not put Buzzy directly on the site, as this certainly could vasoconstrict.
- Research showed significantly **increased success** with one attempt with Buzzy compared to cold spray (OR 3.05, 95%CI 1.03 – 9.02). 65% success with cold spray (pretty standard in ED pediatric populations) versus 85% with Buzzy. A phlebotomy study showed nonsignificant improvement with Buzzy compared to standard care.
- If a patient finds the ice pack to be too cold, have them hold the pack in either hand

