Pain with Uterine Aspiration Abortion

Karen R. Meckstroth, MD, MPH
Director, UCSF Family Planning Services at Mt. Zion
Associate Clinical Professor, UCSF
Dept. of Obstetrics, Gynecology & Reproductive Sciences
San Francisco General Hospital

UCSF
University of California
San Francisco
advancing health worldwide™

Cervical & Uterine Nerves

Uterine fundus

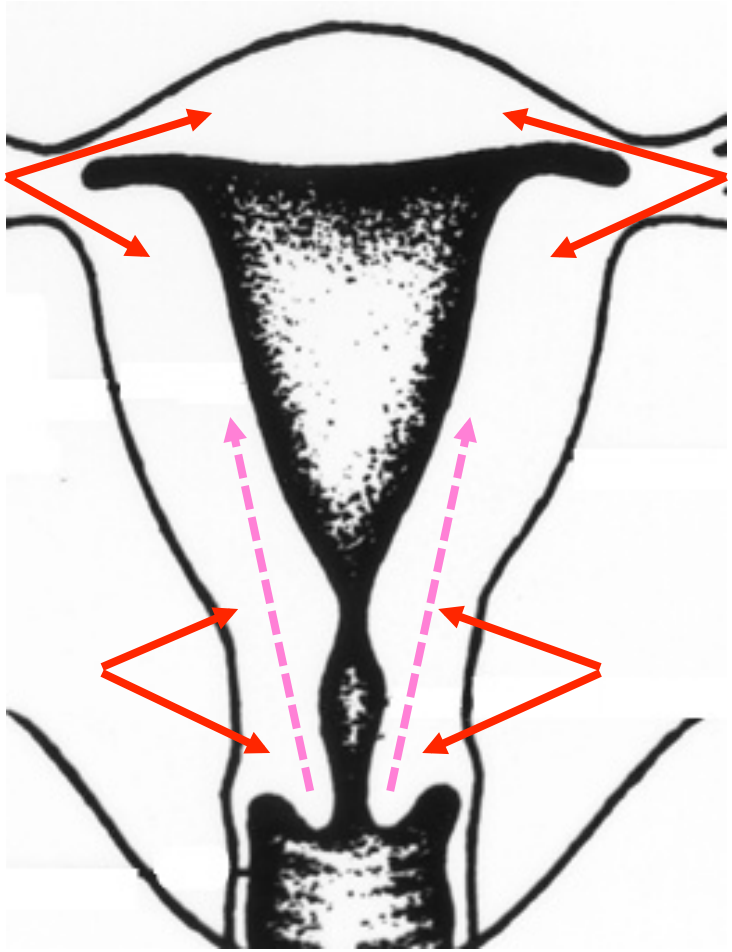
Sympathetic nerves via:

- infundibulopelvic pelvic ligament → utero-ovarian lig
- inf hypogastric nerve through uterosacral ligaments T10 - L1

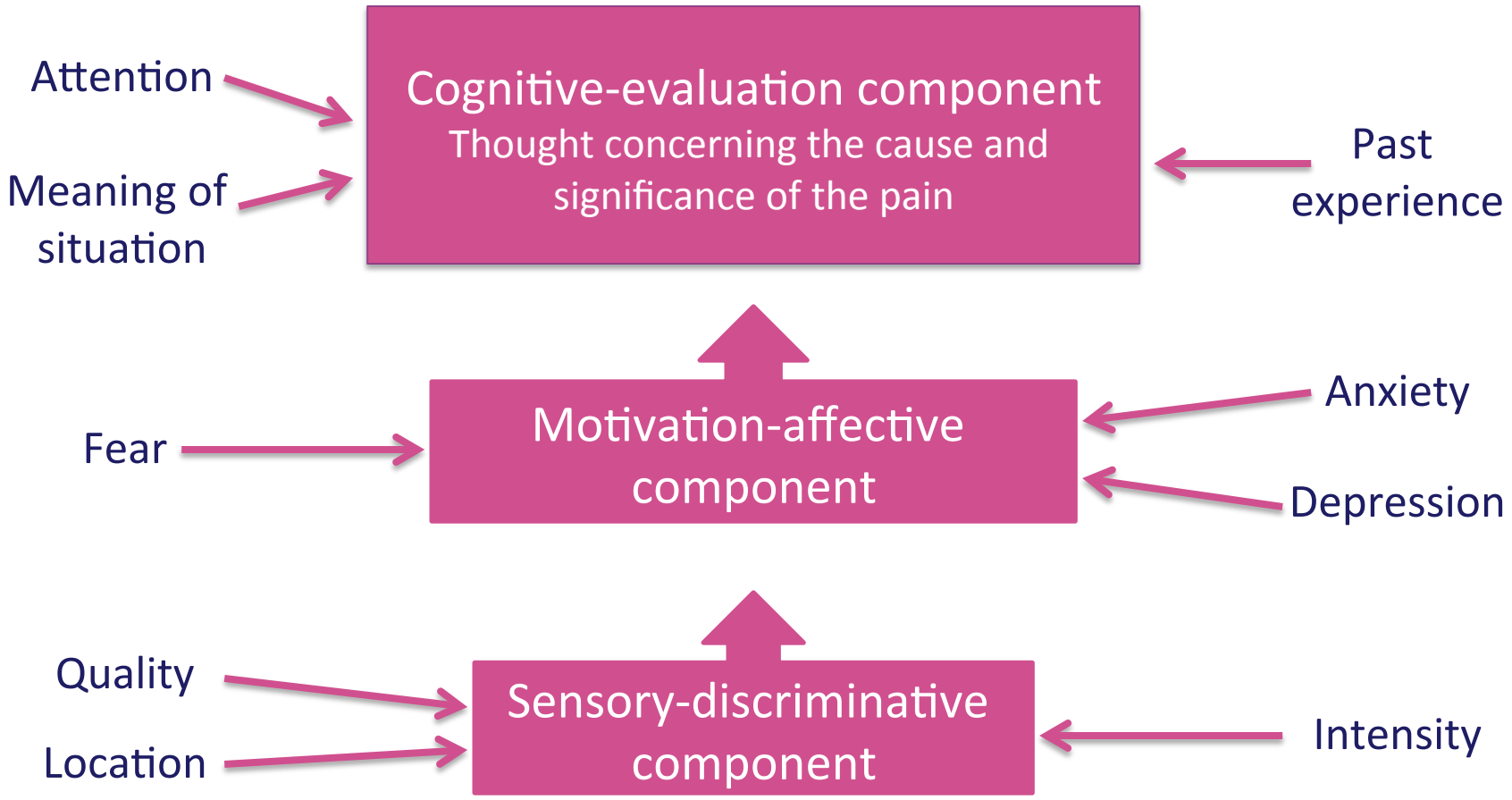
Lower uterus/cervix

- Parasympathetic Frankenhauser plexus lateral to cervix, S2 - S4

Sensory nerves also found in cervical & uterine tissue!



Components of Pain



Cultural Differences and Pain

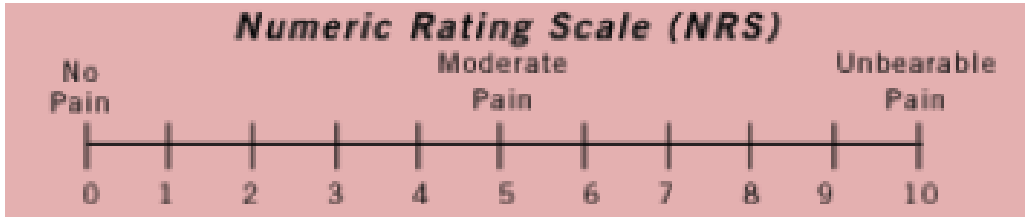
- Cultural differences exist in the understanding and report of pain
- Unfair and unhelpful to make assumptions
- Multiple studies document inferior treatment of acute (ED) and postoperative pain in U.S. minorities

Measuring Pain

No objective pain indicator

- Satisfaction
- Recommend to a friend
- Choose again
- % with severe pain
- McGill pain questionnaire
- Pain scales
- Verbal 0-10, 0-100; Visual Analog Scales

Visual Analog Scales (VAS)



How severe is your pain?

No pain _____ **Worst pain imaginable**

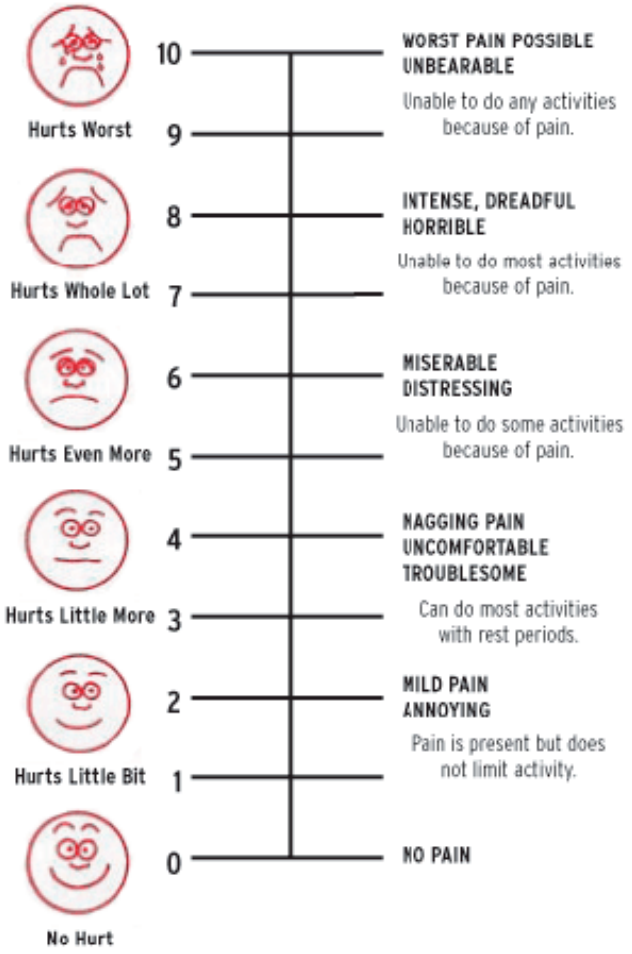
How much pain did you just experience?

Place an "x" in the appropriate box.

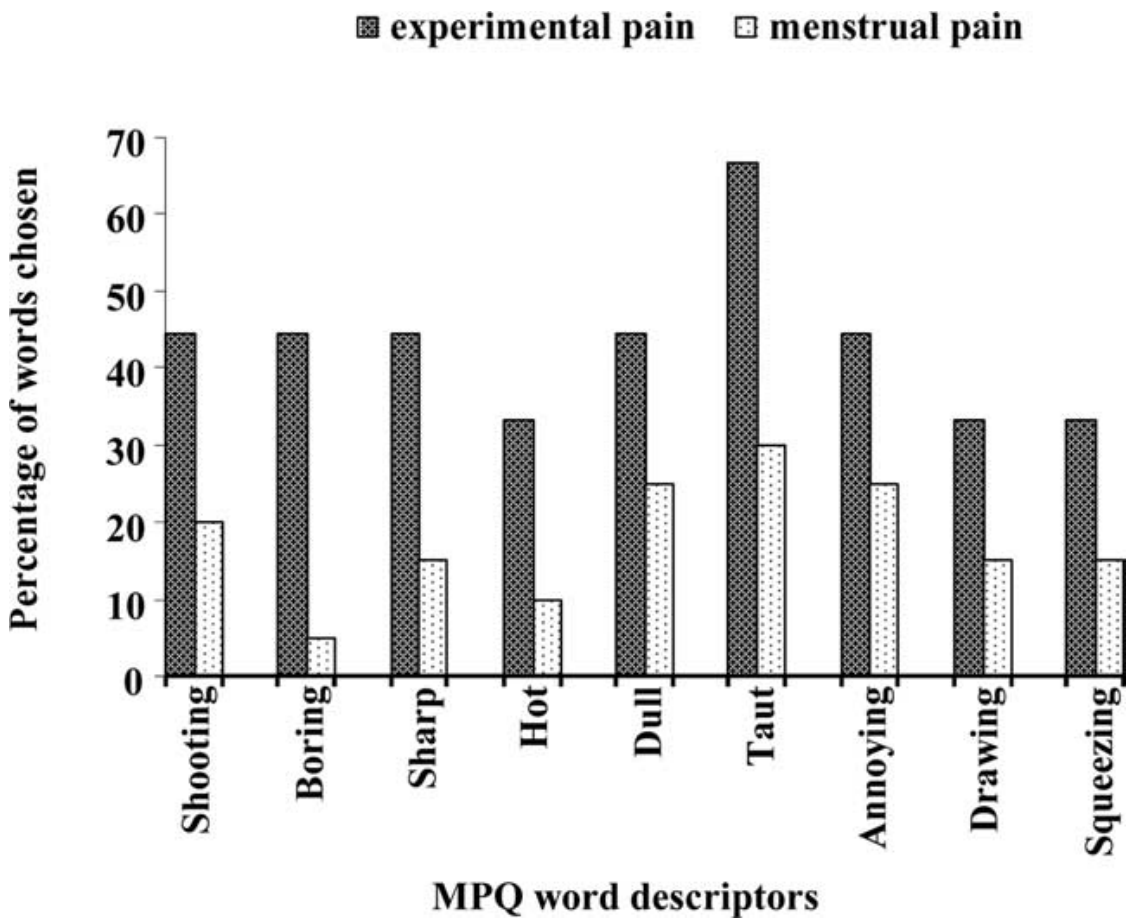
0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100

No Pain

Worst Pain Ever



Pain Descriptors and Experimental Cervical Dilation



Bajaj P, et al. Pain 2002. Arendt-Nielsen L, et al. Eur J Pain 2004.

Factors Associated with Discomfort with Routine Pelvic Exams

- Mean pain 3.2/10
- 17% had pain of 6-10/10 with pelvic exam
- 30% of those with a history of sexual abuse
- Factors associated with high pain:
  - Age < 26 (OR=2.75)
  - Presence of one or more mental health problems (OR=1.9)
  - History of sexual abuse (OR=1.85)
  - Dissatisfaction with present sexual life (OR=1.7)
  - Negative emotional contact with the examiner (OR=8.2)

Adjusted odds ratios, Hilden et al., Acta Ob G Scand. 2003

Pain with Aspiration Abortion

- Mean pain 5-7/10 in many studies
- Everyone is satisfied for abortion - 95% with local block, moderate sedation and general anesthesia

Factors Associated with Increased Abortion Pain

- Depression, anxiety, anticipation of pain
- Earlier (<7 wks.) and later gestations (>12)
- Younger, lower parity
- Dysmenorrhea

Allen 2006; Wiebe 2003; Romero 2008

General Factors Associated with Less Abortion Pain

- **Preparation**: higher level of understanding and reduced anxiety
- **Participation** in the choice of anesthesia[1]
- **Atmosphere**: music (not w/ headphones)
- Shorter **procedure time** (though women prefer longer if pain is less!)
- **Provider**: diff in provider more significant than addition of fentanyl[2]

1. Donati Eur J ObG 1996 2. Rawling Am J ObG 2001

Strategies for Acute Pain

Multimodal pain management

- Using more than 1 class of meds or analgesic technique
- e.g. local + NSAID + narcotic + benzo + nonpharmacologic strategies

Preemptive analgesia

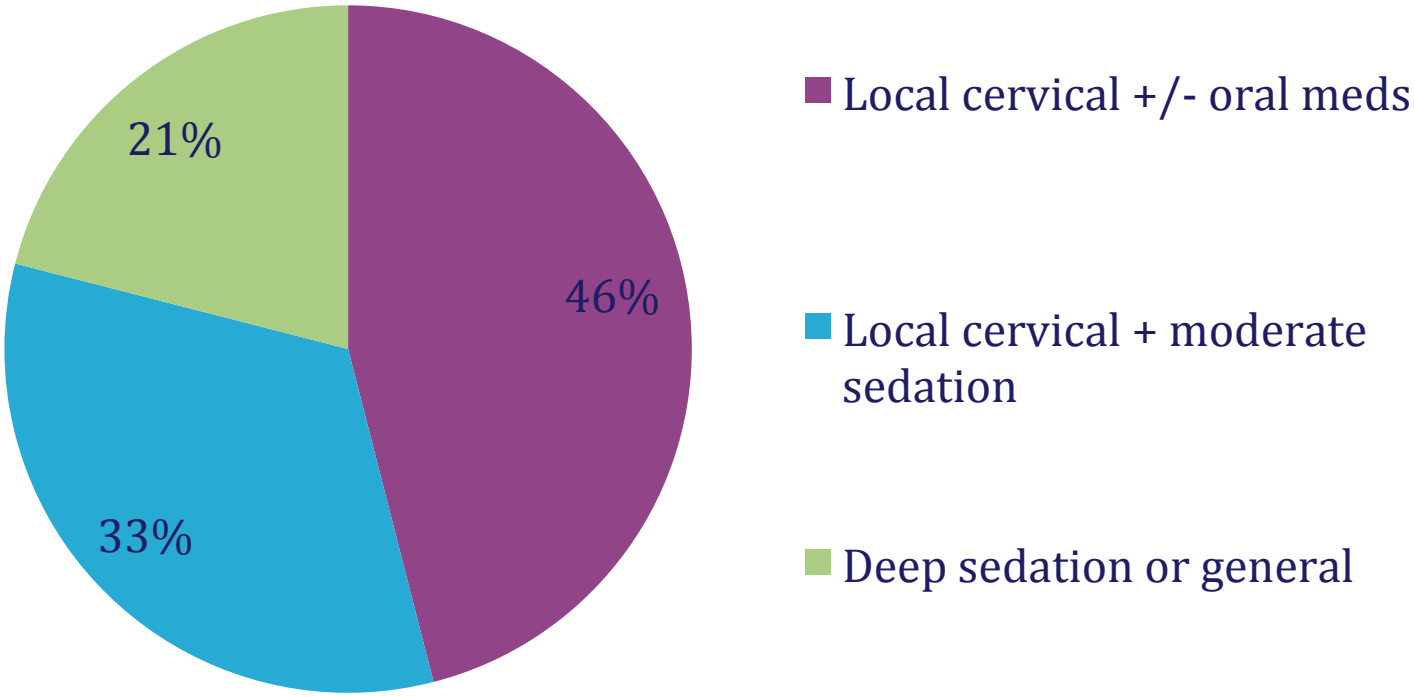
- Intervention more effective PRIOR to tissue injury
- Increased pain response to subsequent stimulation ("wind-up" or "hyperanalgesia")

Pain Control Options

- Office-based anesthesia (OBA)
  - Minimal sedation
  - Moderate sedation
  - Deep sedation/general anesthesia
- NSAIDs, acetaminophen
- Local anesthesia
- Non-pharmacologic techniques

Goal: safety, quality, patient satisfaction

What U.S. Abortion Providers Use



Abortion Anesthesia: What Women Choose

Given the choice of general vs. local:

- 60% chose general. Best features:
  - having no pain (95%)
  - less anxiety (38%)
- 40% chose local. Best features:
  - being ambulatory (26%)
  - avoiding side effects (26%)
  - feeling awake (21%)

Levels of Sedation

	Minimal Sedation (anxiolysis)	Moderate Sedation	Deep Sedation
Example	Oral lorazepam and/or hydrocodone	Fentanyl 50-100 mcg + midazolam 1-3 mg IV	Add propofol
Responsiveness	Normal response to verbal stimulation	Purposeful response to verbal or tactile stimulation	Purposeful response after repeated or painful stimulation
Airway	Unaffected	No intervention required	Intervention may be required
Spontaneous ventilation	Unaffected	Adequate	May be inadequate
Cardiovascular function	Unaffected	Usually maintained	Usually maintained

Patient reaction defines level of sedation, not medication dose

RCT Oral Meds vs. Moderate Sedation

All:			
-ibuprofen	10 mg oxycodone +		100 mcg fentanyl +
-cervical block	1 mg SL lorazepam	vs.	2 mg midazolam
20 mL 1% lido	**PO**		**IV**

Intraoperative pain:	61/100	vs.	36/100
Severe pain (70+):	46%	vs.	15%

Nonpharmacologic Pain Management

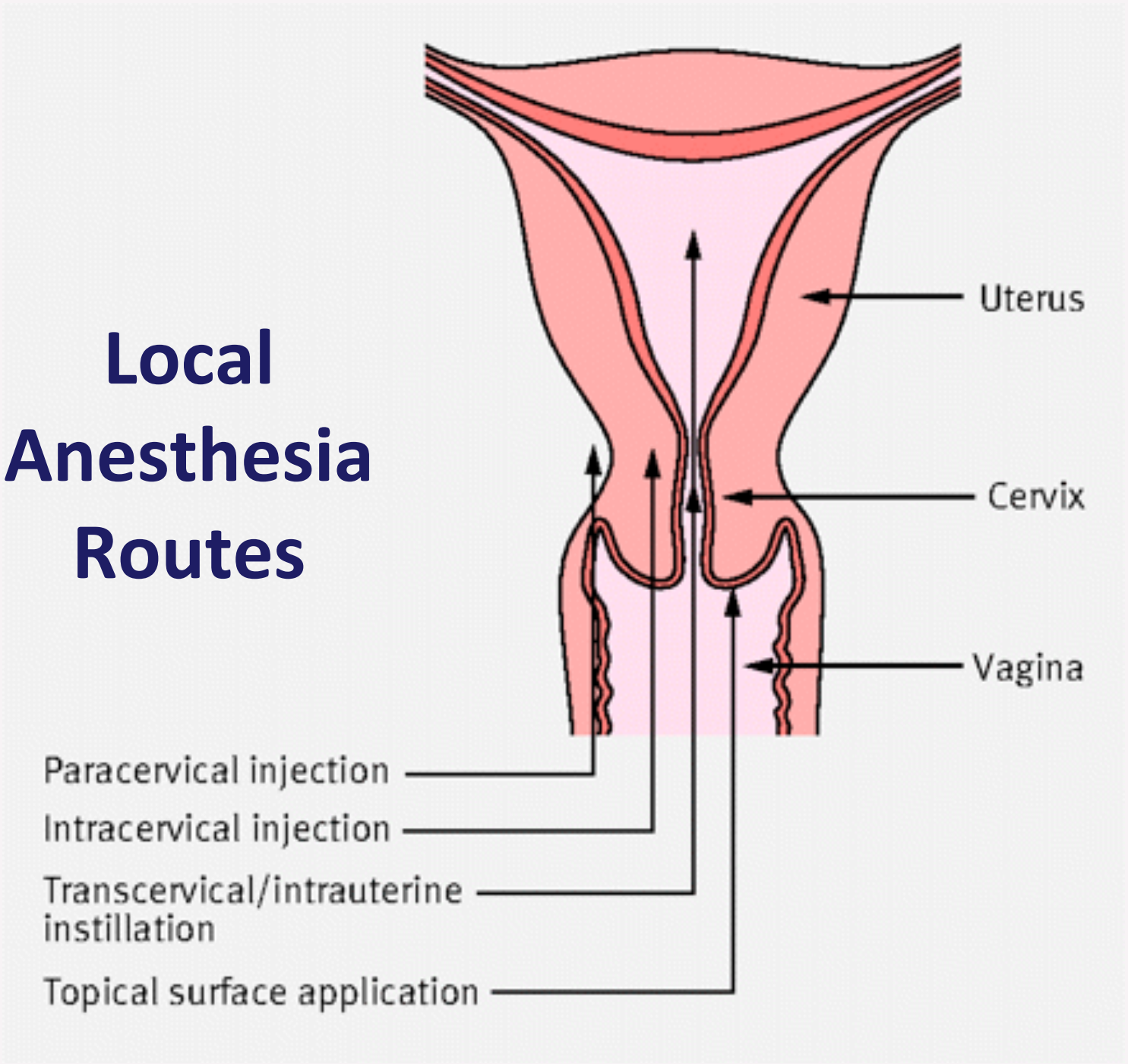
- Patient control: participation in decisions
- Heat: continuous low abdominal heat as effective as ibuprofen for dysmenorrhea
- Counseling techniques
- "Vocal local", diversion of attention
- Music (but not patient choice by headphones)
- Acupuncture
- Positive suggestion, guided imagery
- Hypnosis

Cepeda, et al. Cochrane 2006; Guerrero, et al. Contraception 2012; Kotani, et al. Anesth 2001; Faymonville, et al. Pain 1997;

2010 Cochrane Review
Cervical Prep Before 1st Tri Abortion

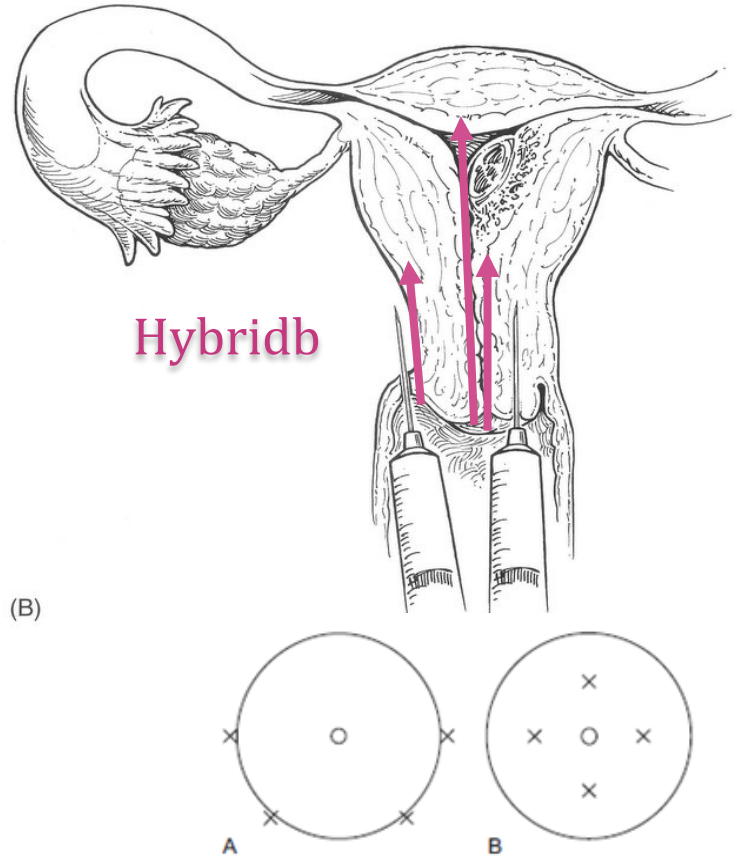
- Recommended by SFP, RCOG, NAF for safety for later first trimester with special consideration for adolescents
- Although procedure pain may be improved, there are significant pain and side effects from the cervical preparation (dilators or misoprostol)

Local Anesthesia Routes

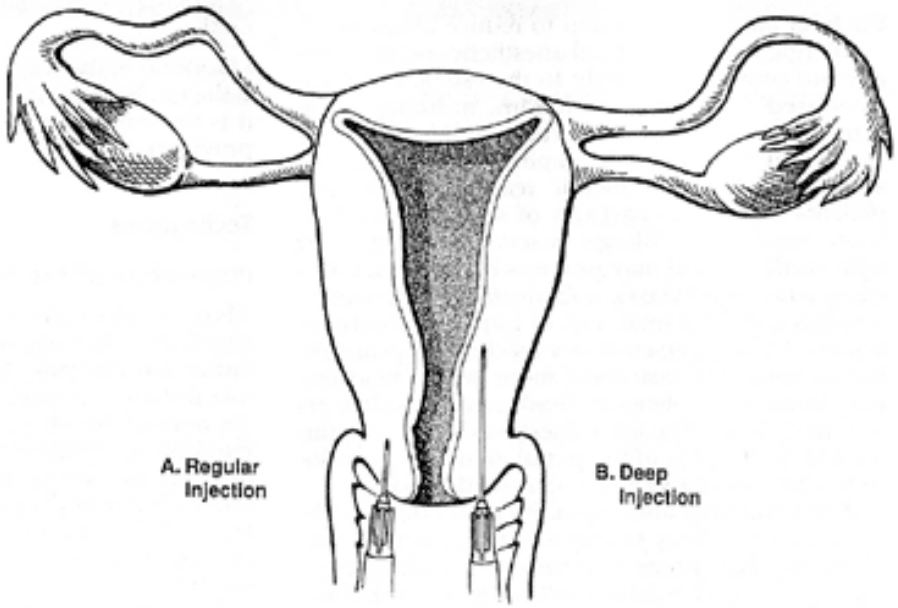


Cervical Injections

Paracervical vs. Intracervical



Superficial vs. Deep injection



Local Anesthetics

- Amino esters and Amino amides
  - E.g. Lidocaine
- 300 mg max dose for an adult (30 mL of 1%)
- 4.5 mg/kg without epinephrine =
  - 22 mL for a 50 kg (110 lb.) patient
  - 30 mL for a 68 kg (150 lb.) patient
  - 40 mL for a 90 kg (200 lb.) patient (beyond max. dose)

- 7 mg/kg with epinephrine (similar effect to vasopressin)

Prevent Local Anesthetic Toxicity

- Aspirate for blood prior to injection
- Monitor total dose
- Monitor patient symptoms; Stop after partial dose to check symptoms
- Use larger volume of more dilute solution
- Inject multiple sites/depths
- Prepare for toxic and allergic reactions

Finally…The RCT to Show Cervical Block Works

- 20 mL 1% buffered lidocaine
- Slow, deep injection at tenaculum + 4 sites
- Stratified by <8 weeks (early), 8-10 weeks (late)

Pain /100	BLOCK early/late	NO BLOCK early/late	
With block	49/58	24/35	p=.001
Dilation	34/51	75/83	p<.001
Aspiration	58/67	88/88	p<.001

Other Evidence
Cervical Block For Uterine Aspiration

1. Deep injections better than superficial (but hurt)
2. Larger volume of injection helps (20+ mL vs. less)
3. Slow injection helps with block pain
4. Buffering lidocaine - less pain than not or bupivicaine
5. Routinely waiting more than a couple minutes after administering block unlikely to be helpful
6. Adding vasopressin:
    1. Decreases bleeding
    2. Decreases re-aspiration
    3. Increases amount of block that can be used
    4. Facilitates dilation

1 Wiebe Am J Ob Gyn, 1992, 2. Stubblefield. Int J Gynecol Obstet 1989, 3. Wiebe Int J Gynecol Obstet 1995, 4. Wiebe Am J Ob Gyn, 1992, 5. Phair Am J Ob Gyn, 2002, 6. Wiebe Contraception. 2003

Example: Cervical Block For Uterine Procedures At UCSF WOC

- Prepare in a sterile cup: 40 mL lidocaine 0.5% + 2 mL bicarb + 4 u vasopressin
- Inject ~ 40 mL, starting with 25G needle:
  - 3 mL - 12 o'clock superficially for tenaculum
  - 22 mL - Paracervical, diffusely into lateral stroma
    +9 o'clock, 3+9+6 o'clock or 10,2,5,7
  - 15 mL - Through os at and above internal os in all quadrants or intrauterine instillation
- Inject slowly, inject as needle enters, most deeply
- Wait 1 min/check for nausea & symptoms after ~25 mL
- Check for pain with dilators; if ANY pain, wait longer and add more plain 0.5-1% lidocaine

In Summary…

- Individualize care
- Talk to patients about reasonable pain control options, even if you intend to recommend against them or can't offer them.
- If you need a good local block:
  - high volume
  - deep
  - slow
  - add more if needed
- Pain scales aren't perfect, but are one of the best tools we have. Ask for them.