



The Pump Paradox: To Pump or Not Too Pump?

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COLORADO PAIN SOCIETY 2ND ANNUAL MEETING

SATURDAY, APRIL 22, 2017

Disclosures

- ▶ I have nothing to disclose.

Opioid Epidemic

Of the 20.5 million Americans 12 or older that had a substance use disorder in 2015, 2 million had a substance use disorder involving prescription pain relievers and 591,000 had a substance use disorder involving heroin.

Epidemic Continued

Drug overdose is the leading cause of accidental death in the US, with 52,404 lethal drug overdoses in 2015. Opioid addiction is driving this epidemic, with 20,101 overdose deaths related to prescription pain relievers, and 12,990 overdose deaths related to heroin in 2015.

New Guidelines

- ▶ Colorado Medical Board → 120 MED
- ▶ CDC → 60 MED
- ▶ Surgeon General → 50 MED

DOWNTREND LIKELY TO CONTINUE

Where Do We Go From Here?

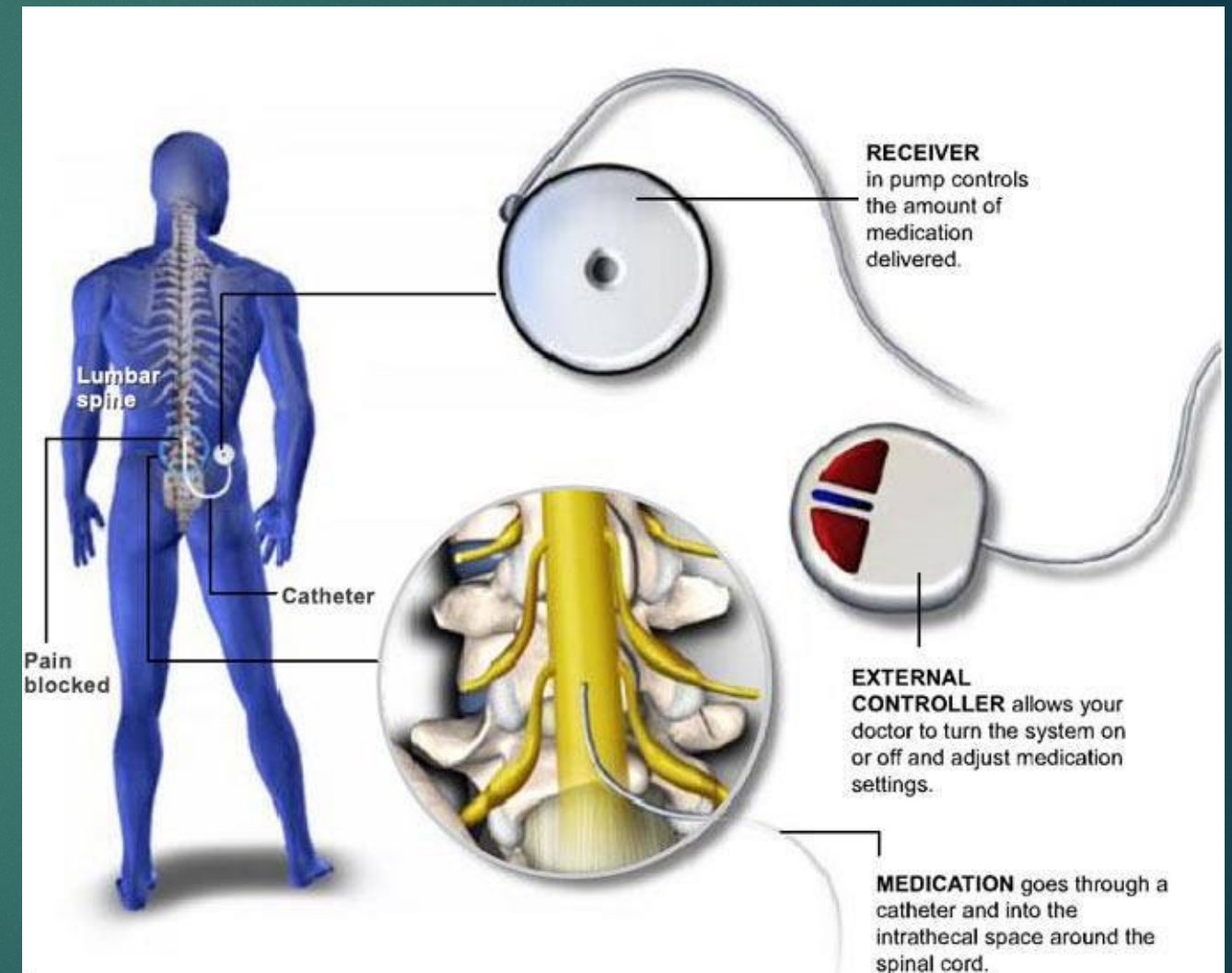
Limited Options

Our Hope For Patients

- ▶ Reduction in pain
- ▶ Improved function
- ▶ Reduction in oral medication
- ▶ Improved quality of life
- ▶ Activities of daily living
- ▶ Decreased utilization of the health care system
- ▶ Return to work
- ▶ Closure of disability claims

Intrathecal Drug Delivery (IDD)

- ▶ Superior pain control
- ▶ Reduced/eliminated PO opiates
- ▶ Improved tolerability
- ▶ Customizable therapy



IDD

- ▶ Axial neck or back pain; not a surgical candidate
 - ▶ Compression fractures
 - ▶ Discogenic Pain
 - ▶ Spinal Stenosis
- ▶ Failed Back Surgery Syndrome (FBSS)
- ▶ Abdominal Pain/Pelvic Pain
 - ▶ Visceral
 - ▶ Somatic
- ▶ Extremity Pain
 - ▶ Radicular
 - ▶ Joint

IDD

- ▶ Trunk Pain
 - ▶ Post-herpetic neuralgia
 - ▶ Post-thoracotomy syndromes
- ▶ Cancer pain, direct invasion and chemotherapy related
- ▶ Spasticity
- ▶ Analgesic efficacy with systemic opioid delivery complicated by intolerable side effects

Outcomes Data

- ▶ Smith et al, 2002: 202 patients with refractory cancer pain, 200mg/d oral morphine equivalent; baseline VAS approximately 7.5
 - ▶ *IDDS improved pain control, reduced toxicity and improved survival in patients with refractory cancer pain*
- ▶ Ellis et al, 2008: 155 patients with severe chronic pain (107 non-cancer pain and 48 with cancer related pain) treated with ziconatide.
 - ▶ *Post-hoc analysis of retained patients demonstrated no attenuation of analgesic effect of mean % reduction of VASPI by 45.8 and stable dose through 12 months ($P < 0.0001$)*

Outcomes Data

- ▶ Shaladi et al, 2007: 24 patients with osteoporosis with presence of chronic vertebral compression fracture, VAS >7 after failed conservative therapy for 3 months, failed systemic opioid therapy
 - ▶ *VAS declined from 8.7 pretrial to 1.9 one year later. Patients reported improved function and satisfaction with therapy, also no systemic opioid medications*
- ▶ Rauck et al, 2003: 119 implanted for refractory cancer pain (analgesic doses caused intolerable side effects).
 - ▶ *NAS decreased 31% and was maintained through months 10-13 in 15 patients, systemic opioid use at 13 months was 0*

Latest Agents

Based on Polyanalgesic Consensus Conference (PACC) Guidelines
Revised 2016

Ziconatide

Morphine

Baclofen

Hydromorphone

Fentanyl

Bupivacaine

Clonidine

Complications

- ▶ **Catheter related**
- ▶ Infection
- ▶ Allergic Reaction
- ▶ Post Dural Puncture Headache
- ▶ Radicular Pain
- ▶ Pump Site Pain
- ▶ Access problems
- ▶ Respiratory Depression
- ▶ Subcutaneous Injection
- ▶ Granuloma Formation
- ▶ Neuropathic Pain (CRPS & Peripheral)

TRIAL TO IMPLANT

- ▶ Detoxify
- ▶ Trialing: Single shot bolus vs continuous catheter
- ▶ Implantation

Case#1: M.C.

40 yo F referred by oncology with **metastatic breast cancer**, including bone mets

VAS 8-9/10

Methadone 50mg TID

Hydromorphone 8mg QID

Cognition clearly affected

Case #1

5 weeks post-op

VAS: 2-3/10

Maintained on intrathecal dilaudid @
1.4mg/day

- ▶ Completely Off Methadone and Dilaudid
 - ▶ Significant improvement in cognition
 - ▶ No oral opiates since pump placement

Case#2: K.M

59 yo F fused from T2 to S1 over the course of multiple surgical interventions. Chronic spinal pain.

Inherited patient
VAS 6/10

Fentanyl 25mcg TD
Oxycodone 10mg QID

Depressed

Case#2

6 weeks post-op

VAS 3/10

Maintained on intrathecal morphine @
0.3624mg/day

- ▶ Oxycodone 10mg BID
- ▶ Hope returned

Case #3: J.R.

31 yo M with spastic diplegic cerebral palsy

Significant lower extremity spasticity (+3
Ashworth Scores)

Poorly controlled w/ PO Baclofen 20mg TID

Hygiene and ADLs inhibited

Case #3

8 weeks post-op

Maintained on intrathecal baclofen @
150mcg/day

- ▶ Ashworth Scores +1
 - ▶ Riding his bike
- ▶ Soon to be married

Case #4: V.M

42 yo F w/ **ankylosing spondylitis**, on biologics, s/p multiple lumbar surgical interventions, left knee replacement

VAS 7/10

Morphine Sulfate ER 15mg BID

Norco 7.5mg QID

Case #4

8 weeks post-op

Maintained on intrathecal morphine @
0.33mg/day with bolus dosing

VAS 3/10

Increased activity, reports significantly better
quality of life

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Thank you!

Questions?