CADD®-Solis Ambulatory
Pain Management System with
Programmed Intermittent Bolus (PIB)

Your solution to better pain management
for post-operative pain
Programmed Intermittent Bolus (PIB)

An innovative technique for epidurals and nerve blocks in post-op pain management

The Past...

Traditional Pain Management

Until now, epidurals and nerve blocks have been delivered in many ways:

- **Single, manual injections** – Immediate pain relief but inconsistent and short-lived
- **Continuous infusions** – Better pain relief, but often too much medication delivered resulting in motor blocks or longer recovery time
- **Clinician boluses** – Immediate pain relief but did not address breakthrough pain
- **Patient Controlled Epidural Analgesia (PCEA)** – Breakthrough pain relieved but overall pain management was still hard to control

The Present...

Patient Controlled Epidural Analgesia (PCEA) and Programmed Intermittent Bolus (PIB)

PCEA/PIB delivery is designed to effectively counter pain before it rises:

- Bolus pressure provides more efficient drug distribution and more effective pain relief
- Better distribution results in less drug consumption
- Less medication = faster recovery and higher patient satisfaction

PIB = Better distribution of medication

Clinical research and practice has shown that bolus volume and delivery pressure can increase the spread of fluid in the epidural space compared to a continuous infusion.

Clinicians can program an intermittent bolus schedule that provides better coverage and less drug consumption.

Continuous infusions result in the medication staying in one area of the epidural space.

Intermittent boluses allow the medication to spread laterally along the space and cover a broader area.
The CADD®-Solis system combines PCEA/PCA and PIB deliveries with best practice protocols and programmable limits for better pain management.

The Future...

CADD®-Solis Infusion System

The CADD®-Solis system combines PCEA/PCA and PIB deliveries for an effective, innovative post-op pain management solution.

- Supports latest clinical research findings for Programmed Intermittent Bolus deliveries
- PCEA/PCA and PIB deliveries combine to create more effective drug delivery duration and block density

Safe. Simple. Smart.

Smart pump technology promotes patient safety.

- Programming limits, clinical advisory notes and best practice protocols
- Large color screen differentiates therapies and displays infusion settings
- CADD™ medication cassette reservoirs are designed to keep medications safe and secure
- Scroll keys help prevent double key press errors
- Compact, lightweight pump designed for patient mobility
The versatile, adaptable next generation CADD®-Solis pain management system can be used for neuraxial, perineural and IV therapies for labor and delivery and adult and pediatric pain management patients. The system is designed to advance your program today and in the future by satisfying current and emerging clinical and technical needs.

**Effective pain management is**

**pain relief without motor blocks,**

**higher patient satisfaction and**

**faster recovery time**

Tailor
- Tailor patient and procedure-specific protocols with intermittent bolus volumes and intervals as well as patient-controlled dosing
- Tailor distribution of the drug with the intermittent bolus volume and bolus delivery rate
- Tailor drug delivery duration with the intermittent bolus interval

Titrate
- Titrate dosing without stopping the pump
- Titrate dosing within user-defined programming limits

Track
- Track therapy progress with trend and log reports that are easy-to-access and interpret

A valuable investment, a smart choice

The versatile, adaptable next generation CADD®-Solis pain management system can be used for neuraxial, perineural and IV therapies for labor and delivery and adult and pediatric pain management patients. The system is designed to advance your program today and in the future by satisfying current and emerging clinical and technical needs.
Advancing Post-operative Pain Management

The Challenge

To provide enough pain relief for faster patient ambulation and recovery

Ineffective pain management

- Partial Blocks – anesthesia delivery is not effective at stopping pain
- Motor Blocks – anesthesia goes beyond the target and interferes with needed patient movement, respiration and function
- Clinician Intervention – inefficient anesthesia delivery causes patient discomfort, often requiring clinician boluses

The Solution

The CADD®-Solis System with PIB delivery, along with PCEA/PCA:

- Provides targeted distribution that knocks out the pain, not the patient
- Lets you program a bolus schedule designed to stop pain before it escalates
- Allows flexible program options for combined PCEA/PCA, PIB and continuous infusion
CADD®-Solis PIB Ambulatory Infusion System Specifications

**On-board Protocol Library**
Stores up to 500 therapy/qualifier/drug protocols

**Program Security**
Cassette/keypad lock and three customizable security access levels by protocol: keypad code, clinician code, administrator code

**Clinical Advisory Note**
User-defined per protocol

**Delivery Limit Method**
Delivery limit, Max doses per hour or not in use

**Max Doses Per Hour**
1 to 60

**Delivery Limit Amount**
0.1 to 1,900 mL (or the mg or mcg equivalent) in increments of:
- 0.01 mL from 0.01 to 0.5 mL
- 0.5 mL from 0.5 mL to 100 mL
- 1.0 mL from 100 to 1,000 mL
- 10 mL from 1,000 to 1,900 mL

**Delivery Limit Period**
1 to 12 hours in increments of 1 hour

**Pump Size**
1.6 in. x 4 in. x 5 in. excluding cassette or other accessories

**Weight**
21 oz. including 4 AA alkaline batteries, excluding other accessories

**Power Sources**
4 AA (IEC LR6) alkaline batteries; AC adapter; rechargeable battery pack

**Battery Life Alkaline**
Approximately 113 hours at 10 mL/hr

**Delivery methods**
Continuous rate, PCA dose, Clinician bolus, Programmed intermittent bolus

**Continuous Rate**
0 to 100 mL/hr (or the mg or mcg equivalent)

**PCA Dose**
0 to 50 mL (or mg or mcg equivalent)

**PCA Dose Lockout**
1 minute to 24 hours in the following increments:
- 1 minute for values between 1 and 20 minutes
- 5 minutes for values between 20 minutes and 24 hours

**PCA/PCEA Configurability**
User can configure PCA/PCEA nomenclature per protocol

**Intermittent Bolus**
The amount of drug to be infused with each intermittent bolus – 0 to 50 mLs (or the mg or mcg equivalent)

**Intermittent Bolus Interval**
The amount of time from the start of one intermittent bolus to the start of the next intermittent bolus – 0 to 4 hours

**Next Bolus**
The length of time from when the pump starts until the next intermittent bolus is delivered; 0 to 4 hours

**Bolus Interval Type**
The timing of intermittent bolus delivery after PCA with the Bolus Interval type feature, PCA Lockout or Bolus Interval

**Clinician Bolus**
0 to 50 mL (or the mg or mcg equivalent)

**Maximum Delivery Rate**
Intermittent Bolus, Clinician Bolus, and PCA Dose: with standard volume tubing: 40-250 mL/hr
- with high volume tubing: 40-500 mL/hr (high volume tubing compatible with Model 2110 pumps only)

**Units**
Milliliters (mL), milligrams (mg), micrograms (mcg)

**Concentration**
mg/mL: 0.1 to 0.5 mg/mL in increments of 0.1 mg/mL
- 0.5 to 1 mg/mL in increments of 0.5 mg/mL
- 1 to 15 mg/mL in increments of 1 mg/mL
- 15 to 100 mg/mL in increments of 5 mg/mL
mcg/mL: 1 to 15 mcg/mL in increments of 1 mcg/mL
- 15 to 100 mcg/mL in increments of 5 mcg/mL
- 100 to 500 mcg/mL in increments of 100 mcg/mL

**Reservoir Volume**
0 to 9999 mL; programmable in 1 mL increments, displayed in 0.1 mL increments

**Delivery Mechanism**
Linear peristaltic

**Occulsion Pressure**
18 +/- 9 psi

**Accuracy**
+/- 6% [nominal]

**Event Log**
5,000 events

**Reports**
Intermittent Bolus Status, given and PCEA/PCA Dose counters, Delivery Log, Event Log, Protocol Library Summary, Device Information

**Graphs**
PCEA/PCA Dose Graph, Intermittent Bolus Graph, PCEA/PCA and Intermittent Graph, Delivery History and Pie Chart

Order Information

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CADD®-Solis System Accessories

| Remote Dose Cord | 21-2186-25 |
| Lockbox Clear | 21-2188-25 |
| Lockbox Yellow | 21-2187-25 |
| Polemount Adapter | 21-2135-25 |
| Polemount Adapter Swivel | 21-2183-25 |
| Lockable Polemount Bracket | 21-6120-51 |
| Battery Door Replacement | 21-2184-51 |
| Pump Key | 21-2185-51 |
| AC Adapter | 21-2140-25 |
| Power Cord for use with AC Adapter | 21-2145-01 |
| Rechargeable Battery | 21-2160-51 |


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