



Introduction

- Intrathecal baclofen is a well-established therapy to reduce spasticity that decreases side effects compared to oral baclofen.¹⁻²
- Intrathecal baclofen withdrawal is a relatively uncommon but potentially fatal event
- Leading causes of intrathecal baclofen withdrawal include infection and pump failure
- Presenting symptoms can include:
 - Pruritus, agitation, tachycardia, increased spasticity
 - May progress to seizures, hyperthermia, death³⁻⁴
- Patients presenting with symptoms of intrathecal baclofen withdrawal should be promptly assessed by a

Case Summary

- 38 year-old male w/ ASIA A paraplegia and intrathecal baclofen pump placed in 2017
- Presented to ED with 3 days of intractable itchiness, increased spasticity, and confusion
- Interrogating pump and accessing reservoir confirmed no pump failure and presence of sufficient baclofen
- Attempted CSF aspiration from the side port was unsuccessful, suggesting likely catheter malfunction
- Patient taken to OR where a distal catheter occlusion was found and corrected with pump replacement
- Patient regained baseline muscle tone and mental status over the next 24 hours

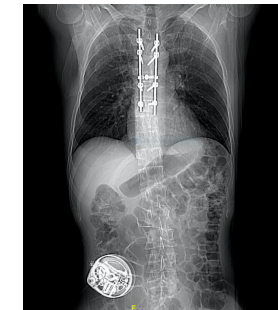
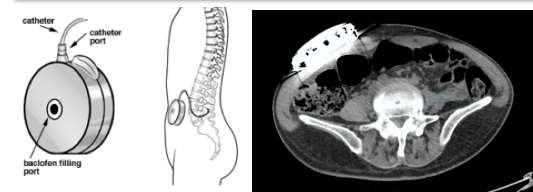
Evaluation and Management

- Work-up should include:
 - 1) Interrogation of pump to assess for possible pump failure
 - 2) Access reservoir to assess for insufficient baclofen supply
 - 3) Aspirate CSF via port to evaluate for catheter malfunction
 - 4) Perform a dye study to confirm proper delivery of baclofen to intrathecal space
- Current management strategies include:
 - High dose benzodiazepines for symptom control
 - Pump and/or catheter replacement as needed
 - Close monitoring with supportive care

Discussion

- In patients with intrathecal baclofen pumps withdrawal is a rare but serious adverse event that can cause severe morbidity including death
- Baclofen pumps are a prevalent treatment tool in rehabilitation medicine
- Physiatrists should know how to recognize and manage withdrawal, especially in settings where other specialists do not commonly encounter this condition
- Patients should be encouraged to follow up regularly to prevent development of insufficient baclofen supply and identify potential pump malfunction early

Intrathecal Baclofen Pump Placement



- **Top left:** Schematic of pump ports and catheter with relative anatomic positioning
- **Top right:** Axial section with proper pump placement
- **Bottom Left:** Coronal section with proper pump placement

References

- 1) Stempien L, Tsai T. Intrathecal Baclofen Pump Use for Spasticity: A Clinical Survey. *Am J Phys Med Rehabil* 2000;79:536-41.
- 2) Winter G, Beni-Adani L, Ben-Pazi H. Intrathecal Baclofen Therapy—Practical Approach: Clinical Benefits and Complication Management. *J Child Neurol* 2018;33:734-41
- 3) Ordia JI, Fischer E, Adamski E, Spatz EL. Chronic intrathecal delivery of baclofen by a programmable pump for the treatment of severe spasticity. *J Neurosurg* 1996;85:452-7. <https://doi.org/10.3171/jns.1996.85.3.0452>
- 4) Pashkin DL, Dekopov AV, Tomskiy AA, Isagulyan ED, Salova EM. Complications of intrathecal baclofen therapy. *Vopr Neurokhirurgii Im NN Burdenko* 2017;81:63. <https://doi.org/10.17116/neiro201780763-69>.