Treatment Algorithm 2024

Canine Chiari and Syringomyelia
How to use this document

• The Canine Chiari and syringomyelia treatment algorithm is now supported by many videos (some listed at the end of the document)

  ![YouTube](https://i.imgur.com/3Q3Q3Q3.png)

• You can access the videos by clicking on underscored words → Click!

• The Canine Chiari and syringomyelia treatment algorithm is also supported by Chiari-Check. A diagnostic tool which generates a Chiari-pain and SM-score to help determine if Canine Chiari or syringomyelia is likely before an MRI scan (or if MRI not possible) and ultimately to monitor clinical signs. → Chiari Check

• Chiari-Check is still under development developed and will improve in accuracy in time

• The Canine Chiari and syringomyelia treatment algorithm is intended for veterinary surgeons and drugs should only be prescribed under the care of a veterinary surgeon

• Please refer to your national guidelines - gabapentinoid drugs and CBD oil are controlled in many countries and all the drugs indicated in the algorithm are being used off label and care givers should be advised accordingly

• The video explaining the CMSM treatment algorithm can be accessed → Here

Clare Rusbridge 2024©
Contents

• Treatment algorithm for **Chiari Pain**
• Treatment algorithm for **Phantom Scratching**
• Treatment algorithm for **Weakness**
• When is **Surgery** indicated?
• When is trial of **CSF reducing drugs** indicated?
• **Cervicothoracic torticollis / scoliosis**
• Top up therapy / **bad Chiari pain days**
• Supporting **videos**

Clare Rusbridge 2024©
# Medical Treatment algorithm 2024 – Chiari-Pain

Assumes poor / inadequate response to NSAID or other licenced medication

- **Assessment, diagnostic tests, refer if indicated**

## Diagnosis

- MRI not possible
  - High CM-P score

## 1st line therapy

4-week trial

- Gabapentin

## 2nd line therapy

4-week trial

- Gabapentin and NSAID
  - OR
  - Pregabalin

## 3rd line therapy

4-week trial

- Pregabalin and NSAID

## 4th line therapy

4-8 - week trial

- Pregabalin and Topiramate
  - OR
  - Pregabalin and NMDA R antagonists
    - OR
    - Pregabalin and Amitriptyline
    - OR
    - Pregabalin and CBD oil?

Clare Rusbridge 2024©
Top up therapy / bad pain days

- **First line**
  - Add a [NSAID](#) (if not already receiving)
- **Second line (not cats)**
  - Add [paracetamol](#) (acetaminophen)
    - 10-20mg/kg up to every 8 hours
    - Long term not advised if giving more than 5 days reduce dose e.g. 10mg/kg every 12 hours
- **Third line**
  - [Ketamine](#) (see supporting video)
    - Subcutaneous injection (one off or monthly)
    - Intravenous infusion (one off or monthly)
Treatment algorithm 2024 – **Phantom Scratching (SM-S)**

Assessment, diagnostic tests, refer if indicated

Clinical signs of SM-S

Diagnosis

- MRI not possible
  - High SM-S score

- MRI confirmed
  - High SM-S score

1\textsuperscript{st} line therapy 4-week trial

- Avoid triggers
- AND
- Gabapentin

2\textsuperscript{nd} line therapy

- Avoid triggers
- AND
- Pregabalin

3\textsuperscript{rd} line therapy

- Pregabalin and intermittent **Maropitant** (especially during triggering events e.g. grooming)

In addition, optimised **management Chiari-Pain**

Clare Rusbridge 2024©
Treatment algorithm 2024 – Syringomyelia weakness

Assessment, diagnostic tests, refer if indicated

Clinical signs of weakness related to syringomyelia

Diagnosis

MRI not possible
High SM-S score and neuro exam

MRI confirmed Neuro exam

1st line therapy

Hydrotherapy

Physical therapy

Physiotherapy

Surgery?

2nd line therapy

4–8-week trial

Trial of drugs that MIGHT reduce CSF production?

3rd line therapy

Re-evaluate all options above

4th line therapy

4-week trial

Corticosteroids – “end stage disease”
Lowest dose to improve signs

Clare Rusbridge 2024©
When is surgery indicated?

- **CM Pain** – unresolved with medical management
- MRI suggests **progressive disease** likely
  - and where surgical management has fair to good prognosis to **reverse** that progression (i.e., collapse the syrinx).
- **Weakness** (forelimb and spinal)
  - and where surgical solution that has a fair to good prognosis to improve or stabilise situation
Based on available evidence

- Hydrocephalus
  - Surgery not option or failed
- Poorly controlled CM pain
- Weakness
  - Surgery not option or failed

First Line – Topiramate
- May be limited by sedation in neurologically compromised animal

Second Line Omeprazole
- High Dose?
- Preferred option if regurgitation also issue
Cervicothoracic torticollis / scoliosis

- Syrinx in C1-C3 spinal cord segments.
- Information from general proprioceptive afferents (neuromuscular spindles) disrupted.
- Results in abnormal function of epaxial muscles maintaining normal orientation of the head and neck.
- Often “improves” over years despite lack of improvement in SM due to central vestibular compensation.
Supporting videos (click to access)

**Canine Chiari and Syringomyelia Playlist**
- Canine Chiari Malformation
- Syringomyelia – the filling mechanism
- Clinical Signs of Canine Chiari and Syringomyelia
- MRI interpretation of Canine Chiari and Syringomyelia
- Drugs that modulate CSF production
- Surgical interventions for Canine Chiari and Syringomyelia
- Maropitant for Phantom Scratching
- Medical management and treatment algorithm

**Neuropathic Pain Playlist**
- Neurobiology of pain and neuropathic pain
- Gabapentin
- Pregabalin
- Palmitoylethanolamide (PEA)
- Cannabinol (CBD oil)
- Emotional Health, exercise, physiotherapy, acupuncture and sleep
- NSAIDs, Paracetamol and corticosteroids
- NMDA receptor antagonists (ketamine, amantadine, memantine)
- Topiramate
- Amitriptyline