

PULSE EXPERIENTIAL TEAM ASSIGNMENT

1. Title of your PULSE experiential assignment. <i>Provide a creative and informative title.</i>
The Secret World of Motor Neurons: Understanding ALS
2. Please summarize your PULSE experiential assignment (max 300 words). <i>Provide a non-technical (lay) summary of your PULSE assignment. Prompts to think about: What is the topic? What is the format? Why did you choose this topic and format? The summary for lay audience is a brief and accessible summary of the assignment that is used to explain complex ideas, technical writing and scientific terms to people who do not have prior knowledge of the subject (e.g., high school science level). This summary should include the importance, impact, and content of your assignment to a broader audience.</i> <i>[Team 23 is an example of an informative lay summary.]</i>
Our PULSE Assignment focuses on Amyotrophic Lateral Sclerosis (ALS), a progressive neurodegenerative disease that affects motor neurons and gradually weakens muscles, which affects walking, speaking, swallowing and eventually breathing. ALS can be complex and challenging to understand, especially for younger audiences; thus, our group decided to communicate information about the disease through a children's storybook. The storybook explains ALS in a simple, engaging, and age-appropriate way, using storytelling and visuals to help readers understand how the brain communicates with muscles and how this process is affected in ALS. By presenting scientific concepts in a narrative format, we aimed to make the topic easier to understand while remaining sensitive to individuals living with the disease. Through this project, our goal is to increase awareness and understanding of ALS, particularly among younger audiences who may not otherwise be exposed to information about neurological diseases. By introducing the topic in a compassionate and accessible way, we hope the storybook encourages empathy and helps readers better understand the challenges faced by people living with ALS. Overall, our project aims to create an educational and meaningful resource that makes learning about ALS approachable while fostering awareness and support for individuals affected by the disease.
3. Provide up to 6 keywords relevant to your PULSE experiential assignment. <i>3-6 keywords are ideal.</i>
Amyotrophic Lateral Sclerosis, Neurodegeneration, Muscles, Morbidity
4. Identify the course topic with which your PULSE assignment most aligns. <i>Refer to the various topics outlined under 'Course content and Schedule' in the syllabus (e.g. Inflammation).</i>
Section D: Diseases of the Central Nervous System

5. What are the learning outcomes?

There should be a minimum of 2 learning outcomes for your assignments. For further information on learning outcomes, the Centre for Teaching and Learning offers information: <https://teaching.uwo.ca/curriculum/coursedesign/learning-outcomes.html>

Through this storybook, students should be able to:

- Explain how the brain, spinal cord, and motor neurons work together to control muscle movement.
- Describe how Amyotrophic Lateral Sclerosis (ALS) affects motor neurons and disrupts communication between the brain and muscles.
- Identify key risk factors for ALS
- Identify key symptoms and explain how ALS progressively affects movement and daily activities.

6. Why did the team select the chosen topic and the medium? How will the topic and medium of choice help learners?

The team selected ASL as the chosen topic of the assignment as it stems from our interest in neurology. The topic of ASL is also prevalent in social media while we were growing up via the ASL ice bucket challenge leading to a pique of interest in this neurological pathology.

We decided on the children's storybook medium because we thought it would be a fun and engaging way to display our topic. We also took inspiration from one of the previous projects that used the same medium on diabetes.

A children's story book includes easy to understand pictures and simple to read text. We've prioritized a clean and easy to read look for our storybook making it straight forward for any readers to follow and understand novel concepts. The pictures provided are meant to illustrate ideas clearly and the short and simple texts are written in an attempt to provide direct knowledge without too much fluff.

7. Did the team use an artificial intelligence (AI) technology tool? If so, which AI technology tool(s) did the team use? What other technology tools did the team use? Is the technology tool novel? Is the team using this technology tool in a novel fashion? If the team did not use technology tool, why did the team decide against using the technology tool(s)?

Please include details (e.g., for what purpose was the tool used for? Why was the tool the best tool to use for your assignment? Are there alternative tools that were considered?)

ChatGPT (GPT-5.3) image generation was used for graphics and diagrams.

This tool was necessary for our project as finding graphics niche enough to be used for ASL was a struggle and using AI helped us create the images and graphics we desired. The tool was also critical in mapping out our storybook layout. We had many creative visions that were at first difficult to picture in a book so using AI helped us map out our ideas onto storybook pages which was greatly useful in planning and designing our book.

8. How is your PULSE experiential assignment innovative and/or novel?

Describe what about the PULSE assignment is innovative/novel. Is there a particular component or content that is innovative/novel? How is it different from other content that already exists?

Our PULSE assignment translates Amyotrophic Lateral Sclerosis (ALS), a complex neurodegenerative disease, into a format accessible to younger generations. By simplifying concepts like motor neuron functioning, neuron signalling and motor control, our storybook makes ALS accessible to younger audiences. The novelty of our assignment comes from the narrative approach to learning, as opposed to traditional textbook-based learning. Through our characters, Dana and Leo, content is delivered in a more interactive manner, improving engagement and helping learners remember key concepts by framing them as part of an adventure inside the body.

9. If you used an AI tool, please copy and paste the prompt(s)/question(s) used along with the output(s)/answer(s) from the AI tool.

The response here is to allow others to replicate the team's work. If the prompts/outputs are lengthy (over 1 page), please attach it as a separate document and note below [Please see attached document].

[Please see attached document]

10. If you did not use an AI tool, please attach a copy of the team's notes to the assignment.

The response here is to allow others to observe the 'behind the scenes' team's work.

N/A

11. How did the team ensure the veracity of the information presented in the PULSE assignment?

The response should highlight how the team has ensured that the information presented in the assignment is evidence-based and not spreading misinformation. You should specifically mention which databases (if any) or textbook materials you used, and how you kept track of the sources/references for each claim. If AI provided you with false information, please describe how the team has fact-checked the AI response and the legitimate (scientific) sources you used. A reference document should be provided in the reference section (15. References) below. Please ensure to include in-text citations in your assignment where applicable.

To ensure the veracity of the information presented in our PULSE assignment, our team used evidence-based, peer-reviewed, and reputable sources throughout our assignment. We used information from reputable academic databases such as PubMed & Google Scholar related to ALS physiology, pathology, diagnosis, and treatments. We additionally used information from reputable organizations such as ALS Society of Canada & World Health Organization to ensure the knowledge gained from scientific journals was well aligned with the most current clinical and public health knowledge. In order to keep track of the references, we created a shared reference document where any articles or websites used could be saved & documented along with the category they were used for and specific notes that could be utilized later to write the annotated

bibliography. For example, an article used can be pasted under both the physiology and pathology tab we created with prompts such as “brain anatomy”, “ALS pathogenesis”, and “neuron anatomy”.

To our knowledge we did not utilize AI as a source to provide novel ALS information. Instead, it was used to help create graphics and map out storybook pages. Our utilization of AI did not require us to fact check as there was no information provided and all our text and knowledge was gathered without the use of AI tools.

12. Write a meaningful team reflection about the PULSE session (max 250 words).

Prompts to help your team write the reflection: Were there any team/individual biases that surfaced when creating content for the assignment? Did the team implement any practices to ensure the content was equitable, diverse, and/or inclusive? How has the PULSE assignment helped with the team's learning? If the team had to estimate, how long did the assignment take? What worked well for your team? What would the team do differently next time? What were the opportunities and challenges with creating the PULSE assignment to help others' learning? Were there any barriers or limitations?

Overall, our team had a very positive experience completing the PULSE assignment. One of our strengths was our agreeability. We were able to quickly decide on a topic and a media we wanted to complete our assignment in. This quick decision allowed us to move into research and writing quickly. We also decided very early that we would be using both Canva & Genially to create our storybook which allowed us to jumpstart the project early in the Fall semester.

However, we did encounter some challenges. None of the team members had experience using Genially which created a learning curve that made the assignment take longer than we initially expected. As one student took charge of graphics and interactive elements, the other 2 students in the group took initiatives in other sections of the project working on storybook writing/text and the template to be submitted.

Teamwork came easily to our group as we were able to create a group chat, meeting schedule, and worked well together.

This assignment helped deepen our understanding of ALS while developing a skill to convey deep & complex scientific material into engaging educational content aimed for children. We tried to create an inclusive & accessible form of media so a diverse group of learners could be educated on ALS.

13. References

1. Johns Hopkins Medicine. Brain anatomy and how the brain works. *Johns Hopkins Medicine*
<https://www.hopkinsmedicine.org/health/conditions-and-diseases/anatomy-of-the-brain> (2021).
2. National Institute of Neurological Disorders and Stroke (NINDS). The life and death of a neuron: brain basics. *NINDS*
<https://www.ninds.nih.gov/health-information/public-education/brain-basics/brain-basics-life-and-death-neuron> (2002).

3. Noto, R. E., Leavitt, L. & Edens, M. A. Physiology, Muscle. in *StatPearls*
<https://www.ncbi.nlm.nih.gov/books/NBK532258/> (StatPearls Publishing, 2023).
4. Mayo Clinic Staff. Amyotrophic lateral sclerosis (ALS): symptoms & causes. *Mayo Clinic*
<https://www.mayoclinic.org/diseases-conditions/amyotrophic-lateral-sclerosis/symptoms-causes/syc-20354022> (2026).
5. ALS Association. ALS symptoms and diagnosis. *ALS Association*
<https://www.als.org/understanding-als/symptoms-diagnosis> (2024).
6. Majmudar, S., Wu, J. & Killewich, L. Physical therapy for individuals with amyotrophic lateral sclerosis: current insights. *J. Clin. Med.* **7**, 209
<https://pmc.ncbi.nlm.nih.gov/articles/PMC7540334/pdf/ENE-27-1918.pdf> (2018).
7. Hardiman, O. *et al.* Amyotrophic lateral sclerosis. *Nat. Rev. Dis. Primers* **3**, 17071
<https://doi.org/10.1038/nrdp.2017.71> (2017).
8. Evangelista *et al.* ALS-associated TDP-43 aggregates drive innate and adaptive immune cell activation. *iScience*
<https://www.sciencedirect.com/science/article/pii/S2589004225009095> (2025)
9. Dal Bello-Haas, V. Physical therapy for individuals with amyotrophic lateral sclerosis: current insights. *Degener. Neurol. Neuromuscul. Dis.* **8**, 45–54
<https://doi.org/10.2147/DNND.S146949> (2018).
10. de Carvalho Vilar, M. D. *et al.* Evidence-based nutritional recommendations for maintaining or restoring nutritional status in patients with amyotrophic lateral sclerosis: a systematic review. *Nutrients* **17**, 782 (2025).
<https://doi.org/10.3390/nu17050782>
11. Muscular Dystrophy Association. Medical management of amyotrophic lateral sclerosis. Available at:
<https://www.mda.org/disease/amyotrophic-lateral-sclerosis/medical-management> (accessed 2026)
12. Radunovic, A., Annane, D., Rafiq, M. K., Brassington, R. & Mustafa, N. Mechanical ventilation for amyotrophic lateral sclerosis/motor neuron disease. *Cochrane Database Syst.* <https://pmc.ncbi.nlm.nih.gov/articles/PMC6485636/> (2017)
13. Mayo Clinic Staff. Amyotrophic lateral sclerosis (ALS): diagnosis & treatment. *Mayo Clinic*
<https://www.mayoclinic.org/diseases-conditions/amyotrophic-lateral-sclerosis/diagnosis-treatment/drc-20354027> (2026).
14. ALS Society of Canada. Diagnosis of ALS. *ALS Society of Canada*
<https://als.ca/what-is-als/diagnosis/> (2024).

14. Annotated Bibliography

Johns Hopkins Medicine. Brain anatomy and how the brain works. Johns Hopkins Medicine
<https://www.hopkinsmedicine.org/health/conditions-and-diseases/anatomy-of-the-brain>
(2021).

This resource will serve as a comprehensive foundational background resource about brain anatomy and the various parts of the brain including the cerebrum, cerebellum, and brainstem, as well as their roles in controlling movements, sensations, thoughts, and automatic actions via the use of neurons and their chemical and electrical signals.

This source is extremely credible as it was published by a world renowned academic medical center; Johns Hopkins Medicine. This publication is aimed at a general public and therefore, is very readable, while providing incredible scientific accuracy. However, because of its broader scope, the information is not as in depth as peer-reviewed literature which limits its use for more comprehensive knowledge.

The selected article will be utilized to describe the basic aspects of brain anatomy and functioning in order to introduce the topic and create necessary background information regarding the ALS in the assignment. Understanding the normal neurological function is essential context to understanding the pathology of the disease.

National Institute of Neurological Disorders and Stroke (NINDS). The life and death of a neuron: brain basics. NINDS

<https://www.ninds.nih.gov/health-information/public-education/brain-basics/brain-basics-life-and-death-neuron> (2002).

This source outlines the biology of neurons, including information on neuron structure, development, signal transduction, and death. The process of neurogenesis and the effects of neuronal survival and degeneration are also included in the information provided in this source.

This resource comes from the National Institute of Neurological Disorders and Stroke, which is an agency within the United States National Institutes of Health. This source has great credibility because of the institution that published it and its authors, who are researchers within the federal health sector. The only drawback of this source is its publication date, which is 2002, which makes it out-of-date in some respects, particularly with regards to neurodegeneration. However, the biology of neurons is still valid and applicable towards the general knowledge of our storybook.

This source will provide the necessary background regarding the biology of neurons in order to understand ALS and its mechanism of action. By understanding how neurons live & die, it can provide the framework needed to understand how ALS is destructive to neurons and why motor function is lost as the disease progresses.

Noto, R. E., Leavitt, L. & Edens, M. A. Physiology, Muscle. in StatPearls

<https://www.ncbi.nlm.nih.gov/books/NBK532258/> (StatPearls Publishing, 2023).

The journal contains information on muscle physiology, discussing the muscle structure (skeletal, cardiac, and smooth muscles), muscle contraction, and the involvement of motor neurons in muscle movement through neuromuscular junction.

This source is a continuously updating peer-reviewed academic publication by StatPearls hosted on the National Center for Biotechnology Information platform can be considered highly credible. The article is written by clinicians, thus it can be used in both

academic and medical context. The level of complexity of the content can be described as slightly advanced, but acceptable for our academic writing.

In this work, the source will serve as an explanation for normal muscle function and the key role of motor neurons in initiating muscle movements. These are key elements for understanding the pathological process of ALS that leads to motor neurons' degeneration and results in muscular dysfunction. The hallmark features of ALS must be well understood in order to discuss diagnosis and further treatment.

Mayo Clinic Staff. Amyotrophic lateral sclerosis (ALS): symptoms & causes. Mayo Clinic <https://www.mayoclinic.org/diseases-conditions/amyotrophic-lateral-sclerosis/symptoms-causes/syc-20354022> (2026).

The source provides an easy-to-understand but informative description of ALS. It explains its distinctive symptoms, including muscle weakness, spasms, speech difficulties, and trouble swallowing, as well as its known and hypothesized causes, which include genetic alterations such as the SOD1 and C9orf72 genes and external risks.

Mayo Clinic is an internationally renowned, non-profit academic medical facility, and its information is vetted by licensed doctors, making this a very reliable resource for both patients and students. As a publication from 2026, it offers up-to-date information regarding the characteristics of ALS. The only drawback is that the source does not cite any research studies and instead is intended for the general public, reducing its academics.

The source will be used in the assignment to explain how the symptoms of ALS manifest as a result of neurological impairment and what potential factors may cause the condition.

ALS Association. ALS symptoms and diagnosis. ALS Association <https://www.als.org/understanding-als/symptoms-diagnosis> (2024).

The source highlights the entire spectrum of ALS symptoms, ranging from initial symptoms such as muscle weakness and twitching to the complications associated with ALS at advanced stages such as difficulties in speaking, swallowing, and breathing. The source provides information on the procedure involved in diagnosing the condition, including the use of EMG and nerve conduction studies as well as the El Escorial diagnostic criteria.

The ALS Association is a leading non-profit organization committed to ALS research and patient advocacy in North America, giving the source high relevance and credibility to the issue. The source provides detailed information in clear language, geared towards helping patients and their caregivers understand ALS. However, the limitations of the source are that it has not undergone peer review and does not feature citations of primary literature.

The source will prove highly useful in explaining ALS symptoms from the patient's point of view as well as in providing information on how ALS is actually diagnosed. This will help to provide context when discussing the problems of diagnosing ALS.

Majmudar, S., Wu, J. & Killewich, L. Physical therapy for individuals with amyotrophic lateral sclerosis: current insights. *J. Clin. Med.* 7, 209 <https://pmc.ncbi.nlm.nih.gov/articles/PMC7540334/pdf/ENE-27-1918.pdf> (2018).

In this journal article, the use of physical therapy in the management of ALS has been analyzed in relation to the efficacy of different types of therapy such as aerobic exercise, resistance exercise, and stretching. The article highlights how the use of physical therapy can be instrumental in improving function and alleviating fatigue while maintaining quality of life without overworking the muscles and leading to their early demise.

A scholarly source from the peer-reviewed, open-access journal, *Journal of Clinical Medicine*, the credibility of this article is quite reliable. Based on clinical research and analysis, the authors present a thorough analysis of what has been proven to be effective and what hasn't, yet. One limitation of this article is that the publication year is 2018 which means newer trials have not been considered but the information provided remains clinically sound nonetheless.

This source will be employed in the part of the paper dedicated to non-drug treatment modalities in ALS. It provides great resources to more multi-disciplinary care and provides insight into physical therapy as a management technique.

Hardiman, O. et al. Amyotrophic lateral sclerosis. *Nat. Rev. Dis. Primers* 3, 17071 <https://doi.org/10.1038/nrdp.2017.71> (2017).

The article is a comprehensive guide to ALS, published by *Nature Reviews Disease Primers* and covering all aspects of the disease, from epidemiology and pathogenesis, through genetic factors, clinical characteristics, diagnostics, and treatment. It is a summary of years of research into ALS and presents an extensive and modern view of the disease processes, which involve protein aggregation, neuroinflammation, and gene mutations.

The reviewed article is one of the most recognized and widely cited reviews about ALS in the scientific world. Its senior author, Orla Hardiman, is one of the most prominent ALS experts around the globe. *Nature Reviews Disease Primers* is an authoritative, peer-reviewed journal. The article's only drawback is its age and the lack of more recent discoveries such as those related to the immune system's involvement in ALS. Despite that, it is still a very credible source to consult.

This source will be used extensively in this scientific assignment as the primary scientific reference on ALS-related matters. It can provide us with in-depth background knowledge and expansive knowledge on inflammatory responses and immune dysregulation of ALS.

Evangelista et al. ALS-associated TDP-43 aggregates drive innate and adaptive immune cell activation. *iScience* <https://www.sciencedirect.com/science/article/pii/S2589004225009095> (2025)

In this research article published in 2025, the involvement of TDP-43 protein aggregates an established hallmark of ALS pathology. The initiation of innate and adaptive immunity in ALS is examined. This paper shows that TDP-43 protein aggregates cause inflammatory reactions which lead to the death of neurons, thereby indicating that immunologic alterations play a crucial part in ALS development.

The above-mentioned article was recently published in 2025 and is high quality scientific work published in *iScience*, a peer-reviewed journal under Cell Press. Such papers are highly valuable due to their novelty; nevertheless, it is necessary to keep in mind that they

have been subject to no more than one round of review, thus requiring confirmation and additional examination.

This source is planned to be utilized in order to support our argumentation that ALS is not merely a motor neuron disease but a disease involving intricate immune-related processes, and that there are new directions for research related to ALS.

Dal Bello-Haas, V. Physical therapy for individuals with amyotrophic lateral sclerosis: current insights. *Degener. Neurol. Neuromuscul. Dis.* 8, 45–54
<https://doi.org/10.2147/DNND.S146949> (2018).

This article is a thorough examination of the use of physical therapy among patients with ALS, including an exploration of particular therapeutic objectives at each stage of the condition, research into the efficacy of exercise regimens, and the need for customized programs. The article highlights the emphasis on therapy, comfort, and quality of life when discussing ALS treatment plans.

Cited in a peer-reviewed medical journal, namely *Degenerative Neurological and Neuromuscular Disease*, and written by a respected expert in ALS rehabilitation, the credibility of this source is unquestionable, making it highly relevant to this topic. It can be combined effectively with the Majmudar et al. article to enhance this aspect of the paper further. The slightly dated information in it is a potential disadvantage, but not significant enough to affect its use.

It will be cited along with other sources on rehabilitation to create an extensive explanation of the role of physical therapy in ALS treatment. We will also be considering its stage specific framework in our storybook to emphasize how treatment goals can change to preserve function as the disease progresses.

de Carvalho Vilar, M. D. et al. Evidence-based nutritional recommendations for maintaining or restoring nutritional status in patients with amyotrophic lateral sclerosis: a systematic review. *Nutrients* 17, 782 (2025). <https://doi.org/10.3390/nu17050782>

The current systematic review from 2025 addresses the problems of nutritional support in patients with ALS. The aspects covered include malnutrition, dysphagia, caloric intake, and the use of enteral feeding by means of percutaneous endoscopic gastrostomy (PEG). This systematic review contains evidence-based suggestions regarding the maintenance of proper nutrition at all stages of the disease.

This article was published in a reputable peer-reviewed MDPI journal called *Nutrients*. In addition, it was written as a systematic review that is considered to be the highest type of evidence synthesis. Hence, its methodological credibility can hardly be questioned, especially since the issue addressed is an important but relatively underresearched aspect of ALS treatment.

This scientific article will be employed to cover the nutritional support of ALS patients in a comprehensive treatment program. It will be especially useful in cases where dysphagia and malnutrition become serious complications.

Muscular Dystrophy Association. Medical management of amyotrophic lateral sclerosis. Available at:

<https://www.mda.org/disease/amyotrophic-lateral-sclerosis/medical-management> (accessed 2026)

The source, which was published by the Muscular Dystrophy Association (MDA), describes the management of ALS through medication. This includes information about the approved drugs by the Food and Drug Administration (FDA) such as riluzole, edaravone, and AMX0035. It also contains descriptions of medications for managing spasticity and hyper-salivation. Finally, this source covers information on the care provided by the multidisciplinary care team.

The MDA is a reputable non-governmental health organization that has been involved in numerous projects related to neuromuscular diseases research and clinical practice. However, since this resource has not been reviewed by peers, it should not be considered scientific literature. This document was compiled for doctors and patients and is always updated to reflect the latest treatment approaches. As a result, this source will be very useful in describing the pharmacotherapy of ALS.

This source will help to describe the drug treatment of ALS. We will be noting the limited but still meaningful options provided and discussing how the management of the disease must be coordinated across multiple medical specialties and how medications can be used to help with supportive care.

Radunovic, A., Annane, D., Rafiq, M. K., Brassington, R. & Mustfa, N. Mechanical ventilation for amyotrophic lateral sclerosis/motor neuron disease. Cochrane Database Syst. <https://pmc.ncbi.nlm.nih.gov/articles/PMC6485636/> (2017)

The Cochrane review focuses on the use of mechanical ventilation, especially NIV, in increasing life expectancy and quality of life in ALS patients suffering from respiratory insufficiency. According to the authors, the use of NIV has been linked with significant gains in terms of life expectancy and symptom alleviation among those able to endure its use.

Cochrane reviews are known as the 'gold standard' for evidence-based medicine owing to their methodical, unbiased approach to research. The use of such literature is highly credible in assessing the efficacy of medical interventions. However, this study is somewhat dated as it was published in 2017, although no changes have been made to its conclusions since then.

This source will be used to discuss the issue of respiratory management in ALS patients, which is highly important since respiratory insufficiency is the leading cause of death in ALS patients.

Mayo Clinic Staff. Amyotrophic lateral sclerosis (ALS): diagnosis & treatment. Mayo Clinic <https://www.mayoclinic.org/diseases-conditions/amyotrophic-lateral-sclerosis/diagnosis-treatment/drc-20354027> (2026).

This source provides information about the diagnostic process of ALS, which includes electrodiagnostic studies, imaging, and laboratory investigations, as well as the current treatment modalities, which include pharmacologic therapies, physical and occupational therapies, speech therapy, nutritional considerations, and assisted ventilation.

Being a 2026 Mayo Clinic source, this source gains credibility through its institutional reputation and up-to-date content. It is reviewed by doctors and is based on the current

clinical practice. The limitation of this source is that it does not provide any citations to the original literature, just like the symptoms source mentioned above. Therefore, it is more appropriate as an overview source than a research one.

This source will be used to give a comprehensive description of the diagnostic and treatment process of ALS. It is especially helpful because it shows how the diagnosis and treatment are interconnected and how different therapeutic methods are coordinated into a whole.

ALS Society of Canada. Diagnosis of ALS. ALS Society of Canada
<https://als.ca/what-is-als/diagnosis/> (2024).

Diagnosis of ALS explained by the ALS Society of Canada provides information about the process of diagnosing the disease, including how the diagnosis is made, what type of tests may be ordered (EMG and MRI), diagnostic criteria, and why it often takes time to diagnose because of excluding other diseases.

It comes from the Canadian national organization that supports ALS patients and conducts ALS research; thus, the source can be considered a reliable one. It is written for a patient and caregiver audience, and the content is always up-to-date. Unlike academic sources, there is no peer review; thus, the content is not backed by evidence but only presents information based on the experience of those diagnosed.

This source can be helpful when adding a Canadian healthcare perspective to the problem, particularly concerning diagnostic challenges and delays and how patients experience being diagnosed with ALS.