Google Search

- Evaluation of Medicinal Uses, Phytochemistry and Pharmacological Properties of Pseudolachnostylis maprouneifolia Pax (Family Phyllanthaceae)
- 'I Feel Like I'm Hitting A Wall or There's A Narrow Tunnel': A Qualitative Study Based on Online Forum Posts by Women With Vaginismus
- Comparative Efficacy of Selective Serotonin Reuptake Inhibitors (SSRIs) and Serotonin-Norepinephrine Reuptake Inhibitors (SNRIs) in the Management of Post-stroke Depression: A Systematic Review of Randomized Controlled Trials
- Anti-Programmed Cell Death-1 Versus Anti-Programmed Death-Ligand 1 (PD-L1) in PD-L1-Negative Advanced Non-Small Cell Lung Cancer: A Systematic Review and Meta-Analysis
- Survival and functional outcomes following surgical repair of pathological fractures in dogs: A meta-analysis
- Exploring the role of metabolomics in kidney transplantation: a systematic review of the literature
- Use of Mitomycin C in Ophthalmic Surgery
- Review of the Frequent Occurrence of Pterygium on the Nasal Side

Symptom checkers are widely used by patients before medical consultation and can be useful for preliminary triage and diagnosis. Lack of recognition of Degenerative Cervical Myelopathy (DCM) by symptom checkers may contribute to the delay in diagnosis.

A study sought to investigate whether online symptom checkers are able to recognize relevant symptoms of DCM, characterize the DCM differential returned, and evaluate the diagnostic performance of its recognized symptoms.

Classical DCM symptoms were pooled from leading review articles. These symptoms were entered into the algorithms used by the top 20 symptom checker websites (N=4) (Google Search). The most widely cited symptom checker, WebMD, was used to characterize the differential diagnosis for DCM symptoms.

31 classical DCM symptoms were identified, of which 14 (45%) listed DCM as a differential and 3 (10%) placed DCM in the top third of the differential. The mean differential rank for motor symptoms was significantly better than for arthritic symptoms (P = .0093) and the average differential rank for all symptoms (P = .048). The symptom checker WebMD performed best at recognizing DCM, placing it nearer the top of the differential list (average rank of 5.6) than both Healthline (rank of 12.9, P = .015) and Health tools.AARP (rank of 15.5, P = .0014). On WebMD, only one combination of symptoms resulted in DCM as the primary differential: neck, shoulder, and arm pain with hand weakness. 151 differential diagnoses for DCM symptoms were recorded on WebMD. Multiple sclerosis and peripheral neuropathy were the most common differentials, shortlisted for 52% and 32% of DCM symptoms respectively.

DCM symptoms perform poorly in online symptom checkers and lead to a large differential of many other common conditions. Whilst a diagnosis becomes more likely as the number of symptoms increases, this will not support much-needed earlier diagnosis. Symptom checkers remain an attractive concept with potential. Further research is required to support their optimization [1)].

To both determine whether the most high-yield online patient materials for surgical specialties meet

the 6th-grade readability level recommended by the National Institutes of Health (NIH) and American Medical Association (AMA), and to discover differences in readability across specialties. We hypothesize average readability scores will exceed an 11th-grade level.

The top five most common procedures for each of the seven surgical specialties (neurological, orthopedic, plastic, general, thoracic, pediatric, and vascular) were searched using an incognito Google query to minimize location bias. The text from the top five patient-relevant links per procedure, excluding Wikipedia, journal articles, and videos, was extracted and inserted into Readability Studio Software for analysis.

The combined average grade level of materials (± standard deviation) was: 10.47 ± 2.51 Flesh-Kincaid Grade Level (FKGL), 11-12 New Dale-Chall (NDC), 10.09 ± 1.97 Simple Measure of Gobbledygook (SMOG), 12 Fry Graph (FG). Thoracic, neurologic, vascular, plastic, and orthopedic were the least readable (grade level 10+ by all metrics).

High readability of procedure materials for patients is not unique to neurosurgery: all specialties exceeded the recommended 6th-grade level by three or more grades. Online patient education materials related to surgical subspecialties must be written in more comprehensible [2)].

Prospective research that validates methods such as Altmetrics or Google Search query analysis will be necessary before widespread adoption is to take place [3)].

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Davies BM, Munro CF, Kotter M. A Novel Insight into the Challenges of Diagnosing Degenerative Cervical Myelopathy using Online Symptom Checkers. J Med Internet Res. 2018 Jul 30. doi: 10.2196/10868. [Epub ahead of print] PubMed PMID: 30300137.
2)
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3)
Lawson McLean AC, Lawson McLean A, Kalff R, Walter J. Google Search Queries About Neurosurgical Topics: Are They a Suitable Guide for Neurosurgeons? World Neurosurg. 2016 Jun;90:179-185. doi: 10.1016/j.wneu.2016.02.045. Epub 2016 Feb 18. PubMed PMID: 26898496.