

Chronic subdural hematoma treatment

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- **Burr-hole drainage** (most common)
 - **Twist-drill craniostomy**
 - **Craniotomy** (for septated or recurrent cases)
 - **Middle meningeal artery embolization** (emerging option for recurrence prevention)
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Corticosteroids are associated with reduced recurrence but also increased morbidity. Drains reduce the risk of recurrence, but the position of a drain (subdural vs subgaleal) did not influence recurrence. Middle meningeal artery embolization is a promising treatment warranting further evaluation in randomized trials ¹⁾.

Surgical therapies involve the irrigation and removal of the blood products, sometimes with partial resection of these vascular membranes ²⁾.

Investigational medical therapies have employed various strategies, which include reducing the rate of microhemorrhage from the membranes, changing the osmotic environment, or altering angiogenesis ³⁾.

Endovascular therapies are aimed at de-vascularizing these membranes ^{4) 5) 6) 7)}.

Providing a high level of evidence to propose a standard of care for this frequent pathology is of utmost importance. However, two surveys in the UK and in France have shown a wide range of

practice, without major rationale ^{8) 9)}.

A variety of clinical factors must be taken into account in the treatment of [chronic subdural hematoma](#) (cSDH), and the multifaceted treatment paradigms continue to evolve ¹⁰⁾.

No class I evidence exists about the optimal treatment of chronic subdural hematoma (CSDH). The aim of this study was to evaluate the current practice of CSDH patients with different neurological grades, and probable ambivalence towards various treatment paradigms, especially primary treatment with high-dose corticosteroids, among vascular neurologists and neurosurgeons. A questionnaire survey containing 4 questions, 1 consisting of cases, was sent to every vascular neurologist (n = 83) and neurosurgical center (n = 15) in the Netherlands. The various treatment options were related to the treating physician, and geographical distribution, both in general and for individual cases. Sixty-two percent of surveys were returned. The proportion of patients primarily treated with corticosteroids was 17.5 % in 2009 and 20.5 % in 2010. Surgery by either burr holes or craniotomy was favored by 61.1 % as primary treatment and conservative treatment with corticosteroids by 22.4 %. Case studies revealed that surgery was preferred in case of severe neurological symptoms, whereas wait-and-see policy was preferred in case of mild symptoms without midline shift, of which 28 % would administer corticosteroids. Variety in answers was obtained in less pronounced cases. In the Netherlands, neurologists and neurosurgeons appear to favor surgery in CSDH patients as primary treatment, especially in severe cases. An ambivalent approach toward treatment protocols was shown, especially in patients with mild symptoms, regardless of hematoma size. A regimen of high-dose corticosteroids only is preferred by about a quarter and predominantly in milder cases and might depend on geographical distribution. These results suggest the need for a well-designed randomized trial ¹¹⁾.

Chronic subdural hematoma conservative treatment

see [Chronic subdural hematoma conservative treatment](#).

Chronic subdural hematoma surgery

see [Chronic subdural hematoma surgery](#).

Middle Meningeal Artery Embolization

see [Middle meningeal artery embolization for chronic subdural hematoma](#).

Systematic reviews

[Chronic subdural hematoma recurrence](#) after [evacuation](#) occurs in approximately 10% of [chronic](#)

subdural hematomas, and the various [Chronic subdural hematoma surgery interventions](#) are approximately equivalent. [Corticosteroids](#) are associated with reduced recurrence but also increased [morbidity](#). [Drains](#) reduce the risk of recurrence, but the position of drain (subdural vs subgaleal) did not influence [recurrence](#). [Middle meningeal artery embolization](#) is a promising treatment warranting further evaluation in [randomized trials](#) ¹²⁾.

Surveys

The aim of a study was to survey aspects of current practice in the UK and Ireland. A 1-page postal questionnaire addressing the treatment of primary (i.e. not recurrent) CSDH was sent to consultant SBNS members in March 2006. There were 112 responses from 215 questionnaires (52%). The preferred surgical technique was burr hole drainage (92%). Most surgeons prefer not to place a drain, with 27% never using one and 58% using drain only in one-quarter of cases or less. Only 11% of surgeons always place a drain, and only 30% place one in 75% of cases or more. The closed subdural-to-external drainage was most commonly used (91%) with closed subgaleal-to-external and subdural-to-peritoneal conduit used less often (3 and 4%, respectively). Only 5% of responders claimed to know the exact recurrence rate. The average perceived recurrence rate among the surgeons that never use drains and those who always use drains, was the same (both 11%). Most operations are performed by registrars (77%). Postoperative imaging is requested routinely by 32% of respondents and 57% of surgeons prescribe bed rest. Ninety four per cent surgeons employ conservative management in less than one-quarter of cases. Forty-two per cent of surgeons never prescribe steroids, 55% prescribe them to those managed conservatively. This survey demonstrates that there are diverse practices in the management of CSDH. This may be because of sufficiently persuasive evidence either does not exist or is not always taken into account. The current literature provides Class II and III evidence and there is a need for randomized studies to address the role of external drainage, steroids and postoperative bed rest ¹³⁾.

Cenic et al. developed and administered a questionnaire to Canadian Neurosurgeons with questions relating to the management of chronic and subacute subdural hematoma. Our sampling frame included all neurosurgery members of the Canadian Neurosurgical Society.

Of 158 questionnaires, 120 were returned (response rate = 76%). The respondents were neurosurgeons with primarily adult clinical practices (108/120). Surgeons preferred one and two burr-hole craniostomy to craniotomy or twist-drill craniostomy as the procedure of choice for initial treatment of subdural hematoma (35.5% vs 49.5% vs 4.7% vs 9.3%, respectively). Craniotomy and two burr-holes were preferred for recurrent subdural hematomas (43.3% and 35.1%, respectively). Surgeons preferred irrigation of the subdural cavity (79.6%), use of a subdural drain (80.6%), and no use of anti-convulsants or corticosteroids (82.1% and 86.6%, respectively). We identified a lack of consensus with keeping patients supine following surgery and post-operative antibiotic use.

The survey has identified variations in practice patterns among Canadian Neurosurgeons with respect to treatment of subacute or chronic subdural hematoma (SDH). Our findings support the need for further prospective studies and clinical trials to resolve areas of discrepancies in clinical management and hence, standardize treatment regimens ¹⁴⁾.

Anticoagulation resumption after chronic subdural hematoma

[Anticoagulation resumption after chronic subdural hematoma.](#)

References

1) 12)

Henry J, Amoo M, Kissner M, Deane T, Zilani G, Crockett MT, Javadpour M. [Management of Chronic Subdural Hematoma: A Systematic Review and Component Network Meta-analysis](#) of 455 Studies With 103 645 Cases. *Neurosurgery*. 2022 Dec 1;91(6):842-855. doi: 10.1227/neu.0000000000002144. Epub 2022 Sep 28. PMID: 36170165.

2)

Markwalder TM . The course of chronic subdural hematomas after burr-hole craniostomy with and without closed-system drainage. *Neurosurg Clin N Am* 2000;11:541-6.doi:10.1016/S1042-3680(18)30120-7

3)

Sun TF , Boet R , Poon WS . Non-surgical primary treatment of chronic subdural haematoma: preliminary results of using dexamethasone. *Br J Neurosurg* 2005;19:327-33.doi:10.1080/02688690500305332

4)

Link TW , Boddu S , Marcus J , et al . Middle meningeal artery embolization as treatment for chronic subdural hematoma: a case series. *Oper Neurosurg* 2018;14:556-62.doi:10.1093/ons/opx154

5)

Link TW , Boddu S , Paine SM , et al . Middle meningeal artery embolization for chronic subdural hematoma: a series of 60 cases. *Neurosurgery* 2018;121.doi:10.1093/neuros/nyy521

6)

Link TW , Rapoport BI , Paine SM , et al . Middle meningeal artery embolization for chronic subdural hematoma: Endovascular technique and radiographic findings. *Interv Neuroradiol* 2018;24:455-62.doi:10.1177/1591019918769336

7)

Link TW , Schwarz JT , Paine SM , et al . Middle meningeal artery embolization for Chronic subdural hematoma recurrence: a case series. *World Neurosurg* 2018;118:e570-4.doi:10.1016/j.wneu.2018.06.241

8)

M. Guénou, Hématome sous-dural chronique. Introduction et résultats de l'enquête de la SFNC, *Neurochirurgie* 4 (2001) 459-460 [https://doi.org/10.1016/S1551-3750\(01\)00047-5](https://doi.org/10.1016/S1551-3750(01)00047-5)

9)

] T. Santarius, R. Lawton, P.J. Kirkpatrick, P.J. Hutchinson, The management of primary chronic subdural haematoma: a questionnaire survey of practice in the United Kingdom and the Republic of Ireland, *Br. J. Neurosurg.* 22 (2008) 529-534, <https://doi.org/10.1080/02688690802195381>.

10)

Sahyouni R, Goshtasbi K, Mahmoodi A, Tran DK, Chen JW. Chronic Subdural Hematoma: A Historical and Clinical Perspective. *World Neurosurg.* 2017 Dec;108:948-953. doi: 10.1016/j.wneu.2017.09.064. Epub 2017 Sep 19. Review. PubMed PMID: 28935548.

11)

Berghauer Pont LM, Dippel DW, Verweij BH, Dirven CM, Dammers R. Ambivalence among neurologists and neurosurgeons on the treatment of chronic subdural hematoma: a national survey.

Acta Neurol Belg. 2013 Mar;113(1):55-9. doi: 10.1007/s13760-012-0130-1. Epub 2012 Sep 14. PMID: 22975837.

¹³⁾

Santarius T, Lawton R, Kirkpatrick PJ, Hutchinson PJ. The management of primary chronic subdural haematoma: a questionnaire survey of practice in the United Kingdom and the Republic of Ireland. Br J Neurosurg. 2008 Aug;22(4):529-34. doi: 10.1080/02688690802195381. PubMed PMID: 18686063.

¹⁴⁾

Cenic A, Bhandari M, Reddy K. Management of chronic subdural hematoma: a national survey and literature review. Can J Neurol Sci. 2005 Nov;32(4):501-6. PubMed PMID: 16408582.

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