Supplementary Data 1. Full search strategy for multi-database literature search.

Search Strategy:

All three searches used the same search terms and truncations. However, the three databases used a searched through a different method.

PubMed – Title/abstract
EMBASE – All fields
Cochrane Reviews – Title/abstract/keyword

Search terms used in all three databases

"subdural haematoma" OR "subdural hematoma" OR "subdural haemorrhage", "subdural hematoma"

AND

Outcome* OR Compar* OR Morbid* OR Mortality* OR Complication* OR reoccur* recur*

AND

Surg* OR operati* OR "non surgical" OR "non-surgical" OR "nonsurgical" OR "burrhole" OR "crani*"

AND

Old* OR frail* OR geri*OR elder*

Supplementary Data 2. Subgroup analysis of studies published before and after 2000.

Studies published before 2000 were hypothesised to report poorer outcomes than studies published after 2000 given advances in healthcare *a priori*. Steps taken to test this are detailed below using mortality at discharge as the outcome measure.

Study No.	Study, Year	Deaths at Discharge	Total
1	Wilberger 1991 [1]	23	28
2	Cagetti 1992 [2]	23	26
3	Kotwica 1992 [3]	23	27
4	Petridis 2009 [4]	64	119
5	Taussky 2012 [5]	13	37
6	Benedetto 2017 [6]	37	67
7	Won 2017 [7]	13	56
8	Monsivais 2018 [8]	47	112
9	Bus 2018 [9]	44	84
10	Akbik 2019 [10]	24	62
11	Trevisi 2020 [11]	51	147
12	Younsi 2020 [12]	9	27

Identifying influential/ outlying studies

R code output demonstrating studies in descending order with respect to their residual estimates. Studies with z-value > 1.5 were considered as potential outliers.

	resid	se	z
2	0.4342	0.2127	2.0413
3	0.3859	0.2199	1.7548
1	0.3444	0.2254	1.5277
7	-0.3219	0.2179	-1.4774
11	-0.1899	0.2284	-0.8318
12	-0.1975	0.2440	-0.8096
5	-0.1800	0.2402	-0.7496
10	-0.1429	0.2372	-0.6026
8	-0.1084	0.2357	-0.4597
6	0.0357	0.2407	0.1484
4	0.0204	0.2380	0.0857
9	0.0050	0.2397	0.0210

Leave-one-out tests to ascertain whether outliers are influential

	estimate	zval	pval	ci.lb	ci.ub	Q	Qp	tau2	I2	H2
1	0.490632	12.417732	0.000000	0.367038	0.614786	73.368265	0.000000	0.038132	91.171885	11.327446
2	0.483338	13.222985	0.000000	0.368397	0.599144	67.141710	0.000000	0.032437	89.808784	9.812371
3	0.487247	12.750372	0.000000	0.367424	0.607788	70.593036	0.000000	0.035606	90.617619	10.658275
4	0.517500	11.346678	0.000000	0.377123	0.656538	86.566590	0.000000	0.049536	92.163460	12.760734
5	0.533819	11.975985	0.000000	0.397708	0.667514	86.933142	0.000000	0.046334	92.524143	13.376393
6	0.516182	11.374204	0.000000	0.376397	0.654740	87.156905	0.000000	0.049256	92.633846	13.575606
7	0.545648	13.087135	0.000000	0.419060	0.669424	74.186796	0.000000	0.039037	91.016112	11.131038
8	0.528963	11.623067	0.000000	0.389688	0.666066	87.768239	0.000000	0.048445	92.068686	12.608251
9	0.518889	11.377863	0.000000	0.378617	0.657719	88.032457	0.000000	0.049508	92.499065	13.331671
10	0.531523	11.784654	0.000000	0.393656	0.667077	87.254073	0.000000	0.047480	92.431292	13.212294
11	0.536202	12.018474	0.000000	0.400142	0.669679	77.809426	0.000000	0.045792	91.306256	11.502524
12	0.534470	12.069039	0.000000	0.399278	0.667234	87.048828	0.000000	0.045823	92.553793	13.429656

	rstudent	dffits	cook.d	cov.r	tau2.del	QE.del	hat	weight	dfbs	inf
1	1.5277	0.4540	0.1835	0.9554	0.0381	73.3683	0.0776	7.7642	0.4562	
2	2.0413	0.6096	0.2917	0.8271	0.0324	67.1417	0.0767	7.6678	0.6174	
3	1.7548	0.5229	0.2306	0.8984	0.0356	70.5930	0.0772	7.7175	0.5271	
4	0.0857	0.0161	0.0003	1.2231	0.0495	86.5666	0.0889	8.8917	0.0161	
5	-0.7496	-0.2277	0.0543	1.1421	0.0463	86.9331	0.0809	8.0874	-0.2275	
6	0.1484	0.0353	0.0014	1.2133	0.0493	87.1569	0.0859	8.5907	0.0353	
7	-1.4774	-0.4374	0.1720	0.9838	0.0390	74.1868	0.0846	8.4625	-0.4371	
8	-0.4597	-0.1513	0.0252	1.1985	0.0484	87.7682	0.0887	8.8666	-0.1517	
9	0.0210	-0.0040	0.0000	1.2205	0.0495	88.0325	0.0873	8.7273	-0.0040	
10	-0.6026	-0.1909	0.0392	1.1731	0.0475	87.2541	0.0854	8.5376	-0.1910	
11	-0.8318	-0.2643	0.0727	1.1406	0.0458	77.8094	0.0897	8.9692	-0.2646	
12	-0.8096	-0.2388	0.0591	1.1264	0.0458	87.0488	0.0772	7.7175	-0.2385	

Moderator analysis (using pre/post 2000 as moderator and logit transformation for each group)

Fixed-Effects with Moderators Model (k = 2)

I^2 (residual heterogeneity / unaccounted variability): 0.00%
H^2 (unaccounted variability / sampling variability): 1.00

Test for Residual Heterogeneity:
QE(df = 0) = 0.000, p-val = 1.000

Test of Moderators (coefficient 2):
QM(df = 1) = 48.197, p-val < .001

Model Results:

	estimate	se	zval	pval	ci.lb	ci.ub	
intrcpt	0.701	0.037	19.132	<.001	0.629	0.773	***
studyyearpre2000	0.459	0.066	6.942	<.001	0.329	0.589	***

Signif. codes: 0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Supplementary Data 3. Indications for conservative management in included studies, and subsequent mortality/ outcomes.

Author, Year	**No. of Patients**	***At Discharge* (N, %)**			***At Long Term Follow Up* (N, %)**				**Indications**
		Deaths	**GOS 1 – 3**	**GOS 4 – 5**	**Deaths**	**GOS 1 – 3**	**GOS 4 – 5**	**Duration**	
Taussky et al., 2012[5]	5	-	-	-	-	5	0	6	Any patients not fulfilling criteria for surgery (see **Supplementary Table 2**), or with bilaterally fixed pupils.
Won et al., 2017[7]	7	-	-	-	5	7	0	3	Not specified. Seven out of 68 patients were managed conservatively due to inoperable comorbidities.
Sufaro et al., 2019[13]	26	2	-	-	9	-	-	12	No specific indications for conservative management given. No significant differences between surgical and conservative groups except for ASDH thickness and focal neurological deficit.
Trevisi et al., 2020[11]	66	14	21	45	21	27	39	6	No specific indications for conservative management. Significantly larger proportion of conservatively managed patients in GCS 13 - 15 category (77%) compared with surgical (36%) group.

Supplementary Data 4. Indications for surgical intervention in included studies.

Author, Year	Indication/ Prerequisites
Wilberger et al., 1991[1]	Surgical indication not specified. All included patients had ASDH thickness >= 3mm and MLS >5 mm. Following patients were excluded from analyses: ● Timing of surgery could not be determined ● Open head injuries, prolonged hypotension/ hypoxia, severe life-threatening extra-cranial injuries
Massaro et al., 1996[14]	Surgical indications- MLS > 5 mm Following patients were excluded- open head injury, prolonged hypotension, hypoxia or severe life threatening injuries
Koc et al., 1997[15]	Surgical indications- ASDH thickness > 10mm, MLS >5 mm
Taussky et al., 2012[5]	Following patients considered suitable for surgical intervention: ● Pre-morbid functional status- KPS of at least 80, usually independent ● Co-morbidities- no evidence of dementia, no comorbidities limiting survival to less than 12 months ● Surgical indications- MLS =>5mm; GCS =<13
Merzo et al., 2016[16]	Not specified for ASDH patients, though general indications for surgical intervention in TBI patients given
Raj et al., 2016[17]	Brain trauma foundation guidelines
Benedetto et al., 2017[6]	Following patients considered suitable for surgical intervention: ● ASDH thickness > 10 mm or MLS >5 mm with patient of any GCS ● GCS drop of 2 points or more, with less severe ASDH thickness/ MLS Following patients were excluded from analysis: ● Bilateral fixed pupils ● Concomitant EDH or significant cerebral contusions ● Major thoracic or abdominal trauma
Monsivais et al., 2018[8]	Following patients considered unsuitable for surgical intervention: ● Neurologically poor- GCS 3 - 5 with or without pupillary involvement with evidence of impending herniation on CT imaging ● Haemodynamic instability, unsuitable for ventilation, or severe cardiac/ pulmonary compromise

	● Advanced malignancy with metastatic disease
Sufaro et al., 2019[13]	Following patients considered suitable for inclusion: ● GCS 13 - 15 and at least one of the following- ASDH thickness > 10mm, MLS > 5 mm, GCS drop of 2 points or more from time of injury ● Surgical intervention performed predominantly in patients with evolving hemiparesis Patients with significant major injuries were excluded.
Trevisi et al., 2020[11]	Following patients considered suitable for surgical intervention: ● ASDH thickness > 10mm, MLS >5 mm (unless other clinical features/ demographics/ baseline functional status were not in favour of surgical intervention- objective parameters not specified)
Cagetti et al., 1992[2]	Not specified
Kotwica & Jakubowski, 1992[3]	Not specified
Akbik et al., 2009[10]	Not specified
Petridis et al., 2009[4]	Not specified
Hamed et al., 2016[18]	Not specified
Won et al., 2017[7]	Not specified
Bus et al., 2019[9]	Not specified
McGinity et al., 2017[19]	Not specified
Younsi et al., 2020[12]	Not specified

Supplementary Data 5. Association between pre-operative neurological status and mortality/ poor outcome following surgical evacuation of ASDH in patients aged 60 years and above.

Study	GCS	Outcome	Statistical Test
Jamjoom, 1992[20]	Dichotomised: >=5 vs <5	Dichotomised GOS	Chi-squared test; NS
Petridis et al., 2009[4]	Categorised: 13-15, 9-12, 3-8	Mortality	Chi-squared test; p < 0.001
Raj et al., 2016[17]	Categorised: 13-15, 9-12, 3-8	Mortality	Chi-squared test; p < 0.001
Benedetto et al., 2017[6]	GCS	GOS (30 days)	Univariate linear regression; RC 0.18, p<0.0001
			Multivariate linear regression; RC 0.17, p<0.0001
		GOS (6 months)	Univariate linear regression; RC 0.20, p<0.0001
			Multivariate linear regression; RC 0.20, p<0.0001
Won et al., 2017[7]	Dichotomised: >6 vs <=6	Mortality	Univariate logistic regression; OR 4.0, p = 0.04
		Dichotomised GOS (discharge)	Univariate logistic regression; OR 4.2, NS
		Dichotomised GOS (LTFU)	Univariate logistic regression; OR 3.7, NS
Monsivais et al., 2018[8]	Dichotomised: >=9 vs <9	Mortality	Chi-squared test; p = 0.01 Multivariate logistic regression; OR 3.0, p = 0.02
Akbik et al., 2019[10]	GCS (mean)	Mortality	Kruskal Wallis test; p = 0.014
		Categorised GOS	Kruskal Wallis test; p = 0.016

Bus et al., 2019[9]	Categorised: 3-8, 9-15	Dichotomised GOS	Chi-squared test; NS
Trevisi et al., 2020[11]	GCS	Dichotomised GOS	Univariate logistic regression; $p < 0.001$
			Multivariate logistic regression; OR 0.87, $p = 0.04$
	Dichotomised: >8 vs <=8	Dichotomised GOS	Chi-squared test; $p < 0.001$

Supplementary Data 6. Association between pre-operative pupil reactivity to light and mortality/ poor outcome following surgical evacuation of ASDH in patients aged 60 years and above.

Study	Pupils	Outcome	Statistical Test
Jamjoom, 1992[20]	Non-reactive pupil(s)	Dichotomised GOS	Chi-squared test; p = 0.025
Petridis et al., 2009[4]	Bilaterally reactive, unilaterally reactive, bilaterally unreactive	Mortality GOS (1 vs others)	Chi-squared test; p<0.001
Raj et al., 2016[17]	Normal, abnormal	Mortality	Chi-squared test; NS
Akbik et al., 2019[10]	Fixed and dilated, normal	Mortality	Fisher's exact test; p = 0.021
		Categorised GOS	Fisher's exact test; p = 0.009
Bus et al., 2019[9]	Bilaterally dilated and unreactive	Dichotomised GOS	Fisher's exact test; p = 0.03
Trevisi et al., 2020[11]	Fixed pupils	Dichotomised GOS	Chi-squared test; NS
Younsi et al., 2020[12]	Anisocoria	Dichotomised GOS	Fisher's exact test; NS

Supplementary Data 7. Summary of risk of bias assessment using ROBINS-I tool for all included studies.

	Study	Cofounding	Selection	Classification	Deviation	Missing	Measurement	Reporting	Overall
1	Wilberger 1991	Moderate	Low	Low	Low	Low	Moderate	Moderate	**Moderate**
2	Cagetti 1992	Serious	NI	Moderate	Low	Low	Serious	Moderate	**Serious**
3	Jamjoom 1992	NI	Low	Low	Low	Low	Moderate	Moderate	**Moderate**
4	Kotwica 1992	Moderate	Low	Low	Low	Low	Moderate	Low	**Moderate**
5	Massaro 1996	Moderate	Low	Low	Low	Low	Moderate	Low	**Moderate**
6	Koc 1997	Moderate	Low	Low	Low	Low	Moderate	Low	**Moderate**
7	Hanif 2009	Moderate	Low	Low	Low	Low	Moderate	Low	**Moderate**
8	Petridis 2009	Moderate	Low	Low	Low	Low	Moderate	Low	**Moderate**
9	Taussky 2012	Moderate	Low	Low	Low	Low	Moderate	Low	**Moderate**
10	Hamed 2016	Serious	Low	Low	Moderate	Low	Moderate	Low	**Serious**
11	Merzo 2021	Moderate	Moderate	Low	Low	Low	Moderate	Low	**Moderate**
12	Raj 2016	Moderate	Moderate	Low	Low	Low	Moderate	Low	**Moderate**
13	Benedetto 2017	Moderate	Low	Low	Low	Low	Moderate	Low	**Moderate**
14	McGinity 2017	Moderate	Moderate	Low	Low	Low	Moderate	Low	**Moderate**
15	Won 2017	Moderate	Low	Moderate	Low	Low	Moderate	Low	**Moderate**
16	Bus 2018	Moderate	Low	Low	Low	Low	Moderate	Moderate	**Moderate**
17	Monsivai 2018	Moderate	Low	Low	Low	Low	Moderate	Low	**Moderate**
18	Akbik 2019	Moderate	Low	Low	Low	Low	Moderate	Low	**Moderate**
19	Sufaro 2019	Serious	Low	Low	Moderate	Low	Moderate	Low	**Serious**
20	Trevisi 2020	Moderate	Low	Low	Low	Low	Moderate	Low	**Moderate**
21	Younsi 2020	Moderate	Low	Low	Low	Serious	Moderate	Low	**Serious**

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