BRITISH SOCIETY OF UROGYNAECOLOGY (BSUG)

APICAL SUSPENSION SURGERY FOR PELVIC ORGAN PROLAPSE IN THE UK: 2020 – 2021

BSUG AUDIT AND DATABASE COMMITTEE 2022

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Contents

Abbreviations			**3**
Preface			**4**
CHAPTER 1	**Introduction**		**5**
	1.1	BSUG database	5
	1.2	Database usage	5
	1.3	Audit timeframe and operations included	5
	1.4	Outcomes	5
	1.4.1	Follow-up interval after surgery	5
	1.4.2	Global impression of improvement after surgery	6
	1.4.3	Surgical complications	6
CHAPTER 2	**Number of procedures and trends**		**7**
	2.1	Apical suspension procedures 2020-2021	7
	2.2	Changes in the number of apical suspension procedures	8
CHAPTER 3	**Surgery for primary and recurrent prolapse**		**9**
CHAPTER 4	**Outcomes of surgery**		**10**
	4.1	Global impression of improvement after apical suspension procedures	10
	4.2	Follow-up interval	11
	4.3	Method of follow-up	11
CHAPTER 5	**Complications**		**12**
	5.1	Intra-operative and post-operative complications	12
	5.2	Graft complications	12
	5.3	Persistent postoperative pain	13
CHAPTER 6	**Limitations of the audit**		**14**

Abbreviations

- British Society of Urogynaecology (BSUG)
- Global impression of improvement (GII)
- International Continence Society (ICS)
- International Urogynaecological Association (IUGA)
- National Institute for Health and Care Excellence (NICE)

Preface

The British Society of Urogynaecology (BSUG) database has been available online since 2007. It allows BSUG members to record details of procedures performed to treat urinary incontinence and pelvic organ prolapse.

The main aim of the BSUG database is to allow outcomes of operations to be studied in detail. Thanks to the commitment of BSUG members - and the patients who kindly allowed their data to be recorded – the database has been extremely successful. Currently more than 160000 surgical episodes have been recorded and the database has generated many publications which are listed on the BSUG website.

Individual consultants use the BSUG database to examine their own practice and for annual appraisal. Using the database is also one of the requirements to become a BSUG accredited urogynaecology centre.

Continual improvements have been made to the BSUG database by many consultants who have worked in their own time without payment. While not perfect, the large number of cases entered allows a valid assessment of the outcome of prolapse and incontinence procedures in the UK to be made.

This is the 2nd national report on apical suspension surgery for pelvic organ prolapse from the BSUG Audit and Database Committee and includes data from 2020 and 2021. We have included information on national trends and details about the four most commonly performed procedures for the treatment of apical prolapse: Sacrocolpopexy, sacrohysteropexy, sacrospinous colpopexy and sacrospinous hysteropexy. A conscious decision was taken to not interpret or comment on the results apart from where an explanation is necessary.

Thank you again to the patients and BSUG members who have contributed to this report which we hope you will find useful.

BSUG Audit and Database Committee 2022

CHAPTER 1: Introduction

1.1 BSUG DATABASE

The British Society of Urogynaecology (BSUG) database was established in 2004 and launched online in 2007. It collects data on operations for urinary incontinence and pelvic organ prolapse from the UK and is open to BSUG members. Access to the database is password-protected. Data entry is self-reported and voluntary and is currently required for a centre to be accredited in urogynaecology by BSUG. Patient consent is required for data entry.

1.2 DATABASE USAGE

At the end of 2021, there were more than 160000 recorded procedures for urinary incontinence and prolapse in the database. Centres which entered data included teaching hospitals, district general hospitals and private hospitals. The cases entered also include operations carried out by trainees on patients under the care of consultants. These cases are included in the audit as they cannot be easily separated.

1.3 AUDIT TIMEFRAME AND OPERATIONS INCLUDED

The timeframe of the audit was from the start of 2020 to the end of 2021. Data was downloaded on 28th January 2022 so not all episodes intended to be entered into the database may have been uploaded. The 4 apical suspension operations which have been included in this audit are:

Vaginal procedures

1. Sacrospinous colpopexy (SSC) as a sole procedure or combined with vaginal hysterectomy and pelvic floor repair
2. Sacrospinous hysteropexy (SSH) as a sole procedure or combined with pelvic floor repair

Abdominal procedures

1. Sacrocolpopexy (SCP), open and laparoscopic, as a sole procedure or combined with hysterectomy (total and subtotal) and pelvic floor repair
2. Sacrohysteropexy (SHP), open and laparoscopic, as a sole procedure or combined with pelvic floor repair

1.4 OUTCOMES

1.4.1 FOLLOW-UP INTERVAL AFTER SURGERY

The database records the 1st follow-up after surgery at 4 specific intervals of 6 weeks, 3 months, 6 months and 1 year. How the follow-up was carried out can also be recorded: Face-to-face outpatient visit, postal questionnaire, online questionnaire, telephone follow-up or follow-up at the GP practice.

1.4.2 GLOBAL IMPRESSION OF IMPROVEMENT (GII) AFTER SURGERY

The outcome of surgery was assessed using patient-reported global impression of improvement (GII). The scale has 7 outcome categories *(Table 1)*.

Table 1: *Global impression of improvement after surgery*

Very much better
Much better
A little better
No change
A little worse
Much worse
Very much worse

1.4.3 SURGICAL COMPLICATIONS

The database records specified intraoperative and postoperative complications *(Table 2)*.

Table 2: *Intraoperative and postoperative complications*

Intraoperative	Postoperative
Ureteric injury	Graft complications
Bladder injury	Blood transfusion
Bowel injury	Thromboembolism
Urethral injury	Return to theatre < 72 hours of the procedure
Nerve injury	Catheterisation > 10 days
Estimated blood loss > 500 ml	Readmission within 30 days of the procedure
	Death
	Persistent postoperative pain

The database allows users to record the occurrence of postoperative 'graft complications' along with the ICS-IUGA classification code for graft complications. The specific nature of the complication requires the complication codes to be manually analysed once extracted from the database. This was not done due to time constraints. So, 'graft complications' could encompass various mesh-related problems including pain, urinary symptoms, infection and mesh exposure or erosion.

It does not specify the exact nature of the complication and could encompass various mesh-related problems including pain, urinary symptoms, infection and mesh exposure or erosion.

It is important to note that vaginal vault operations may have been carried out along with other concomitant procedures that may have a confounding effect on the complication rate.

CHAPTER 2: Number of procedures and trends

2.1 APICAL SUSPENSION PROCEDURES 2020-2021

For the timeframe 2020 to 2021 inclusive, there were 2136 procedures which have been included in this audit. 75.1% (1605) of these procedures were non-mesh transvaginal apical suspension procedures *(Table 3)*. Overall, sacrospinous colpopexy was the most frequently performed procedure (1365, 63.9%).

We have shown the number of vaginal vault suspension procedures added to the BSUG database in 2018 but have not included them in the overall analysis. The 2018 numbers are of interest as sacrocolpopexies and sacrohysteropexies were classified as 'high vigilance restriction' procedures by NHS England in July 2018 [1] and the 1st coronavirus lockdown in the UK occurred in March 2020. *Table 3* shows the number of procedures per year for each of the operations.

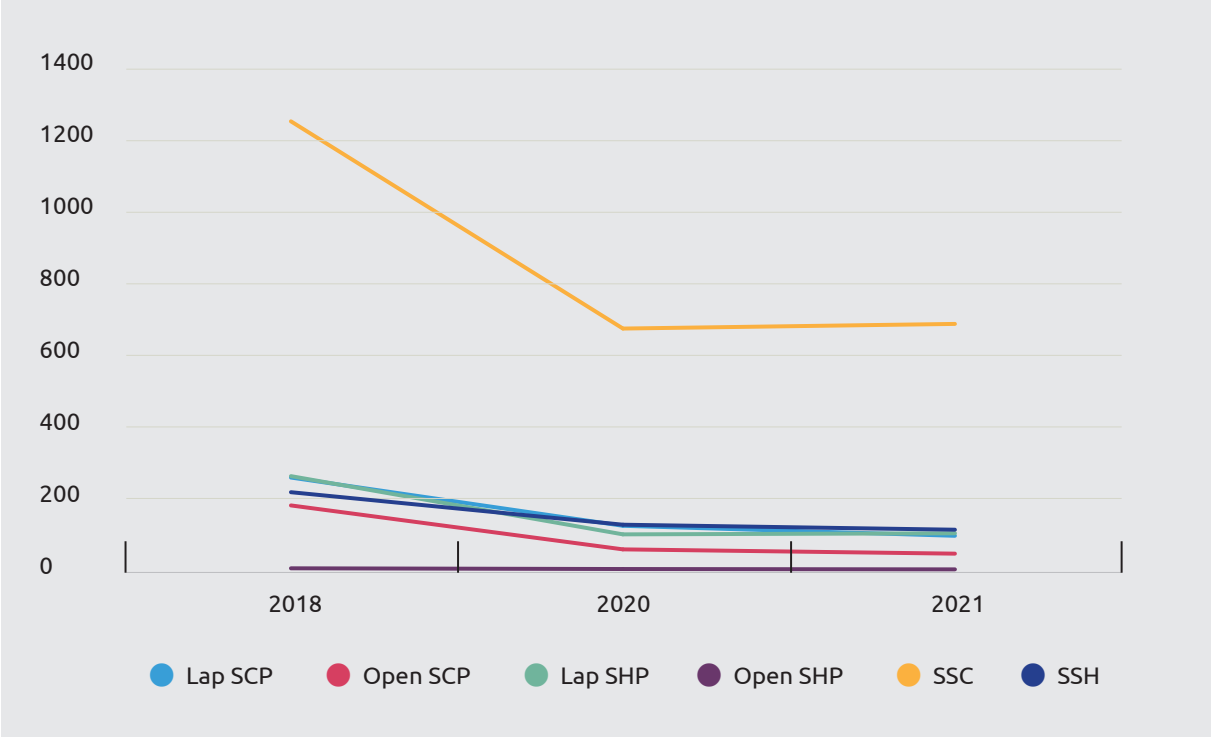
Table 3: *Number of apical suspension procedures in 2018, 2020 & 2021*

	2018	2020	2021	Total n for 2020 & 2021
Lap sacrocolpopexy	259	124	96	219
Open sacrocolpopexy	181	58	46	104
Lap sacrohysteropexy	263	100	103	203
Open sacrohysteropexy	5	3	2	5
Sacrospinous colpopexy	1256	676	689	1365
Sacrospinous hysteropexy	218	127	113	240

2.2 CHANGES IN THE NUMBER OF APICAL SUSPENSION PROCEDURES

As expected, there was a fall in the number of all 6 apical suspension procedures in 2020 and 2021 compared with 2018 *(Table 3 & Figure 1)*.

Figure 1: *Number of apical suspension procedures in 2018, 2020 & 2021*



CHAPTER 3: Surgery for recurrent prolapse

3.1 SURGERY FOR PRIMARY AND RECURRENT PROLAPSE

Sacrospinous hysteropexy and laparoscopic sacrohysteropexy were the procedures that were performed most for primary prolapse (91.0% and 95.9% respectively) *(Table 4)*.

Table 4: *Apical suspension procedures for primary prolapse*

	Primary surgery (n)	%
Lap sacrocolpopexy, N=197	102	51.8
Open sacrocolpopexy, N=95	61	64.2
Lap sacrohysteropexy, N=194	186	95.9
Open sacrohysteropexy, N=3	2	66.7
Sacrospinous colpopexy, N=1261	885	64.8
Sacrospinous hysteropexy, N=221	201	91.0

4.1 GLOBAL IMPRESSION OF IMPROVEMENT (GII) AFTER APICAL SUSPENSION PROCEDURES

GII was recorded at follow-up in:

Lap sacrocolpopexy	44.7% of episodes
Open sacrocolpopexy	51.9% of episodes
Lap sacrohysteropexy	37.4% of episodes
Open sacrohysteropexy	60.0% of episodes
Sacrospinous colpopexy	51.1% of episodes
Sacrospinous hysteropexy	38.8% of episodes

Episodes reporting 'Very much better' (VMB) or 'Much better' (MB) GII were considered 'cured'. Although 100% of episodes after open sacrohysteropexy had VMB or MB outcomes, there were only 5 cases. Laparoscopic sacrohysteropexy had the 2nd highest percentage of VMB or MB outcomes at 94.8% and sacrospinous hysteropexy the lowest cure rate at 85.0% *(Table 5)*.

Table 5: *Global impression of improvement after apical suspension procedures*

	GII – Very much better or Much better outcomes, %(n)
Lap sacrocolpopexy (n=98)	92.8 (91)
Open sacrocolpopexy (n=54)	92.6 (50)
Lap sacrohysteropexy (n=76)	94.8 (72)
Open sacrohysteropexy (n=3)	100 (3)
Sacrospinous colpopexy (n=698)	92.4 (645)
Sacrospinous hysteropexy (n=93)	85.0 (79)

4.2 FOLLOW-UP INTERVAL

For all procedures, follow-up was short-term and occurred at 6 months or less in greater than 90% of cases *(Table 6)*.

Table 6: *Follow-up interval*

	6 months or less, % (n)
Lap sacrocolpopexy (n=98)	92.9 (91)
Open sacrocolpopexy (n=56)	94.6 (53)
Lap sacrohysteropexy (n=74)	97.3 (72)
Open sacrohysteropexy (n=3)	100 (3)
Sacrospinous colpopexy (n=708)	97.8 (691)
Sacrospinous hysteropexy (n=93)	95.6 (89)

4.3 METHOD OF FOLLOW-UP

Face-to-face outpatient visit and telephone consultations were the most common ways patients were reviewed after surgery *(Table 7)*.

Table 7: *Method of follow-up*

	Face-to-face, % (n)	Telephone, % (n)
Lap sacrocolpopexy (n=99)	53.5 (53)	43.4 (43)
Open sacrocolpopexy (n=56)	75.0 (42)	23.2 (13)
Lap sacrohysteropexy (n=77)	57.1 (44)	36.4 (28)
Open sacrohysteropexy (n=3)	66.7 (2)	33.3 (1)
Sacrospinous colpopexy (n=726)	55.8 (405)	37.2 (270)
Sacrospinous hysteropexy (n=93)	52.7 (49)	45.2 (42)

CHAPTER 5: Complications

5.1 INTRAOPERATIVE AND POSTOPERATIVE COMPLICATIONS

The intraoperative and postoperative complications for each procedure are shown in *Table 8*. The rates include apical suspension procedures with concomitant operations which may have a confounding effect.

Overall, when the intraoperative and postoperative rates were combined, open sacrocolpopexy had the highest complication rate (13.3%) and laparoscopic sacrohysteropexy the lowest (5.3%). Open sacrohysteropexy had a combined complication rate of 0% but there were only 5 cases.

5.2 GRAFT COMPLICATIONS

The reported rate of postoperative graft complication for the procedures utilising mesh is shown in *Table 8*. The database allows the presence or absence of a 'graft complication' to be recorded. However, the term is non-specific and may refer to a variety of mesh-related problems. As such, it was not possible to categorise mesh complications more precisely.

Postoperative graft complications were less common after sacrohysteropexy compared with sacrocolpopexy. An exact incidence of postoperative graft complications was difficult to obtain due to the lack of long-term follow-up and missing values. These factors are likely to result in an underestimation of the incidence.

5.3 PERSISTENT POSTOPERATIVE PAIN

The reported rate of persistent postoperative pain is shown in *Table 8*. It was:

- 6.0% after sacrospinous hysteropexy
- 7.2% after sacrospinous colpopexy
- 7.6% after laparoscopic sacrocolpopexy
- 6.0% after open sacrocolpopexy
- 4.1% after laparoscopic sacrohysteropexy
- 0% after open sacrohysteropexy, however, there only 5 open sacrohysteropexy cases

Table 8: *Intra and postoperative complications, % (number of occurrences) [number of cases]*

	Lap SCP	Open SCP	Lap SCH	Open SCH	SSC	SSH
Ureteric injury	0 [213]	0 [103]	0 [203]	0 [5]	0.07 (1) [1347]	0 [236]
Bladder injury	0.9 (2) [213]	1.0 (1) [103]	0 [203]	0 [5]	0 [1347]	0 [236]
Vaginal button-hole	1.4 (3) [212]	0 [103]	0 [203]	0 [5]	0.07 (1) [1347]	0.8 (2) [236}
Urethral injury	0 [212]	0 [103]	0 [203]	0 [5]	0 [1347]	0 [236]
Bowel injury	0 [212]	0 [103]	0 [203]	0 [5]	0.3 (4) [1347]	0.4 (1) [236]
Vascular injury	0 [212]	1.0 (1) [103]	0 [203]	0 [5]	0.07 (1) [1347]	0.4 (1) [236]
Neurological injury	0 [212]	0 [103]	0 [203]	0 [5]	0 [1347]	0 [236]
EBL >500ml	0 [212]	0 [103]	0 [203]	0 [5]	0.6 (8) [1347]	0.4 (1) [236]
Perioperative blood transfusion	0 [212]	0 [103]	0 [203]	0 [5]	0.07 (1) [1347]	0 [236]
Perioperative VTE	0 [212]	0 [103]	0 [203]	0 [5]	0 [1347]	0 [236]
Death	0 [212]	0 [103]	0 [203]	0 [5]	0 [1347]	0 [236]
Catheterisation >10 days	0.9 (1) [109]	0 [56]	0 [83]	0 [3]	1.4 (11) [775]	1.0 (1) [103]
Readmission <30 days	0.9 (1) [109]	0 [56]	1.2 (1) [83]	0 [3]	1.2 (9) [772]	0 [100]
Return to theatre <72 hrs	0 [109]	5.3 (3) [57]	0 [83]	0 [3]	0.9 (7) [774]	0 [103]
Persistent postop pain	7.6 (7) [92]	6.0 (3) [53]	4.1 (3) [73]	0 [3]	7.2 (45) [628]	6.0 (5) [83]
Postop graft complication	1.7 (1) [59]	0 [33]	0 [83]	0 [1]1	NA	NA
Cumulative rate	13.4	13.3	5.3	0	11.8	9.0

CHAPTER 6: Limitations of the audit

6.1 LIMITATION OF THE AUDIT

Not every operation performed for the treatment of apical prolapse in 2020 and 2021 will have been included in this analysis as use of the database is voluntary and open only to BSUG members. Some procedures will have been performed by surgeons who are not members of BSUG. A comparison to HES has not been made. In addition, caution must be applied to the use and interpretation of this report because of missing data and the limited recording of long-term outcomes – both positive and negative. This is particularly so for long-term complications which may arise after the initial period of follow-up and which may have been treated in other units.

REFERENCES

1) Letter from NHS England and NHS Improvement to trust medical directors regarding 'high vigilance restriction' procedures. NHS England & NHS Improvement. July 2018.

https://i.emlfiles4.com/cmpdoc/9/7/2/8/1/1/files/47633_mesh-letter-to-acute-ceosand-mds.pdf