



BRITISH SOCIETY OF
UROGYNAECOLOGY (BSUG)

**VAGINAL HYSTERECTOMY FOR PROLAPSE
IN THE UK 2008-2017**

BSUG AUDIT AND DATABASE COMMITTEE 2019

Contents

PREFACE		4
CHAPTER 1	Introduction	5
	1.1 BSUG database	
	1.2 Database usage	
	1.3 Audit timeframe and operations included	
	1.4 Outcomes	
	1.4.1 Follow up interval after surgery	
	1.4.2 Global impression of improvement (GII) after surgery	
	1.4.3 Surgical complications	
	1.4.4 Assignment of risk for complications	
CHAPTER 2	Number of procedures and trends	9
	2.1 Number of procedures 2008-2017	
	2.2 Trends 2008-2018	
CHAPTER 3	Sole and concomitant procedures	11
CHAPTER 4	Primary and repeat operations for prolapse	13
	4.1 Surgery or recurrent prolapse	
CHAPTER 5	Follow-up after surgery	14
	5.1 Follow-up method	
	5.2 Follow-up interval after surgery	
CHAPTER 6	Global impression of improvement (GII) after surgery	16
	6.1 GII at first follow-up	
	6.2 GII at different time intervals	
CHAPTER 7	Complications of surgery	18
	7.1 Intraoperative complications	
	7.2 Postoperative complications	
CHAPTER 8	Limitations of the Audit	23

ABBREVIATIONS

British Society of Urogynaecology (BSUG)

National Institute for Health and Care Excellence (NICE)

National Health Service (NHS)

Vaginal hysterectomy (VH)

Global impression of improvement (GII)

Hospital Episode Statistics (HES)

Royal College of Obstetricians and Gynaecologists (RCOG)

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. Although voluntary, use of the database is recommended by The National Institute for Health and Care Excellence (NICE). In addition, since July 2018, its use is required for 'high vigilance restriction' procedures [1].

The main aim of the BSUG database is to allow outcomes of individual 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 140 000 individual surgical episodes have been recorded by many consultants and centres. There have also been many publications which are listed on the BSUG website.

Individual consultants use the BSUG database to examine their own practice and for annual appraisal. It 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 by many consultants allows a valid assessment of the outcome of prolapse and incontinence procedures in the UK to be made.

This is the first National Report on Vaginal Hysterectomy from the BSUG Audit and Database Committee and includes the first full 10 years of data collection (2008 – 2017). We have included information on national trends and details on vaginal hysterectomy for prolapse. Audits on sacrospinous fixations, anterior vaginal wall repairs, posterior vaginal wall repairs, sacrocolpopexies and sacrohysteropexies have been reported in separate BSUG publications. 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 2019

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 and the database is held within the secure NHS N3 network. Data entry is self-reported and voluntary but is recommended by NICE 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

From 2008 to 2017, 116 037 procedures for urinary incontinence and prolapse were entered onto the database. There were 145 centres which entered data and these 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 2008 (the first full year of online data collection) to the end of 2017. We have also shown the number of vaginal hysterectomies (VH) undertaken in 2018 but have not analysed their outcomes because at the time of writing this report many patients had not completed their follow up.

The procedures included in this audit are:

1. Vaginal hysterectomy for prolapse
2. Vaginal hysterectomy combined with other procedures. Other Procedures included pelvic floor repairs using native tissue and continence operations.

Vaginal hysterectomies with concomitant sacrospinous fixations were excluded from this audit as they are reported separately in the BSUG National Report on Sacrospinous Fixation. Vaginal hysterectomies with concomitant operations involving the use of mesh for prolapse were also excluded from this analysis.

Vaginal hysterectomies could be sole procedures or part of a combination of procedures, usually for pelvic organ prolapse but sometimes also for incontinence. Sole procedures cannot automatically be separated from procedures with concomitant operations using the current functions of the database. The data was analysed manually to categorise the procedures.

1.4 OUTCOMES

1.4.1 FOLLOW-UP INTERVAL AFTER SURGERY

The database records the 1st follow-up after surgery at 4 pre-specified intervals of 6 weeks, 3 months, 6 months and 1 year. How the follow-up was carried out can also be recorded (*Table 1*).

Table 1: *Method of follow-up.*

Outpatient visit
Postal questionnaire
Online questionnaire
Telephone follow-up
Follow-up at the GP practice
As per local agreement

1.4.2 GLOBAL IMPRESSION OF IMPROVEMENT (GII) AFTER SURGERY

The outcome of surgery was assessed by looking at the patient-reported global impression of improvement (GII). The scale has 7 outcome categories and is specific to an improvement in prolapse (*Table 2*). Vaginal hysterectomies may have been carried out along with other concomitant procedures that may have a confounding effect on GII. Therefore, GII for both sole procedures and procedures with concomitant operations are reported separately. As the functions of the database only generate the overall GII automatically, data was analysed manually to obtain this information.

Table 2: *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 pre-specified intraoperative and postoperative complications (Table 3 & 4).

Table 3: *Intraoperative complications.*

Ureteric injury
Bladder injury
Bowel injury
Urethral injury
Nerve injury
Estimated blood loss > 500 ml

Table 4: *Postoperative complications.*

Graft complications (where relevant)
Blood transfusion
Thromboembolism
Return to theatre within 72 hours of the procedure
Catheterisation > 10 days
Readmission within 30 days of the procedure
Death

It is important to note that vaginal hysterectomies may have been carried out along with other concomitant operations which may have a confounding effect on the complication rate. Therefore, the rate for both sole procedures and procedures with concomitant operations are reported separately. As the functions of the database only generate the overall complication rate automatically, data was analysed manually to obtain this information.

1.4.4 ASSIGNMENT OF RISK FOR COMPLICATIONS

The incidence of each intraoperative and postoperative complication was assigned a level of risk based on guidance by the Royal College of Obstetricians and Gynaecologists [2] (Table 5).

Table 5: *Assignment of risk for complications.*

Term	Equivalent numerical ratio	Colloquial equivalent
Very common	1/1 to 1/10	A person in a family
Common	1/10 to 1/100	A person in a street
Uncommon	1/100 to 1/1000	A person in a village
Rare	1/1000 to 1/10 000	A person in a small town
Very rare	Less than 1/10 000	A person in a large town

CHAPTER 2: Number of procedures and trends

2.1 NUMBER OF PROCEDURES 2008-2017

There were 17812 vaginal hysterectomies for prolapse.

Figure 1, Table 6 shows the number of vaginal hysterectomies per year. Although not included in the audit, the number of procedures for 2018 are shown as sacrocolpopexies and sacrohysteropexies were designated as high vigilance procedures by NHS England in July 2018. This may have influenced the number of vaginal hysterectomies performed that year.

2.2 TRENDS 2008-2018

Figure 1 shows a 13% increase in the number of vaginal hysterectomies added to the database from 2017 to 2018. Prior to this, from 2014 to 2017, there was a plateau in the number of vaginal hysterectomies.

Figure 1: Number of vaginal hysterectomies added to the BSUG database per year 2008-2018.

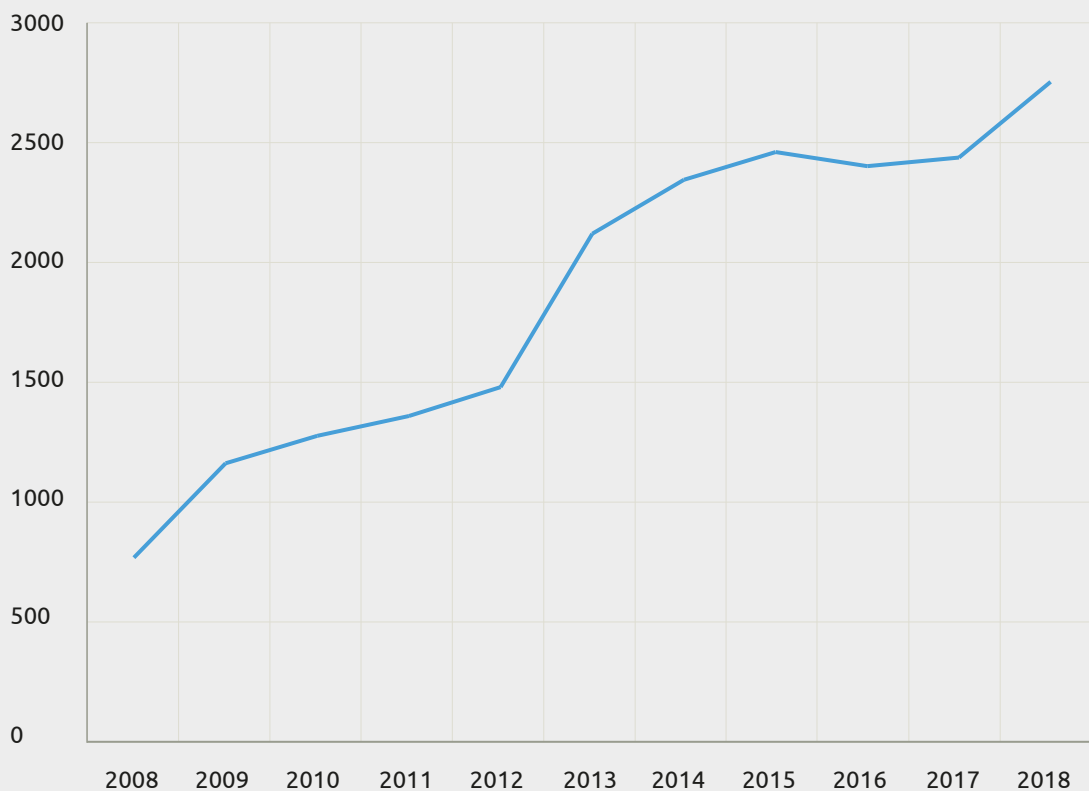


Table 6: Number of vaginal hysterectomies added to the BSUG database per year 2008-2018.

	Vaginal hysterectomy
2008	765
2009	1160
2010	1275
2011	1358
2012	1479
2013	2121
2014	2347
2015	2463
2016	2404
2017	2440
2018	2757
Total	20569

Note: Figures from 2018 excluded from audit analysis

CHAPTER 3: Sole and concomitant procedures

Vaginal hysterectomies (VH) were categorised into 2 groups (*Figure 2, Table 7*):

- 1. VH only (6.4%)
- 2. VH + other procedures (93.6%)

Other Procedures comprised mainly of pelvic floor repairs. 9.5% (1694) had continence operations.

The categories were not automatically separable using the functions of the database. Data was analysed manually to obtain this information.

Figure 2: Vaginal hysterectomy: Sole procedures and those with concomitant operations.

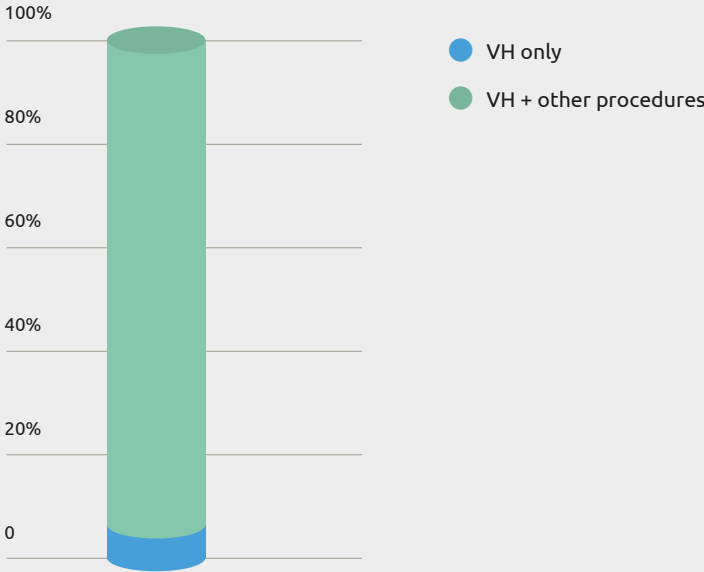


Table 7: Vaginal hysterectomy: Sole procedures and those with concomitant operations.

Vaginal hysterectomy	
VH only	1147 (6.4%)
VH + other procedures	16665 (93.6%)
Total	17812

CHAPTER 4: Primary and repeat operations for prolapse

4.1 SURGERY FOR RECURRENT PROLAPSE

4.2% (614) of VH were for recurrent prolapse (Figure 3, Table 8).

Figure 3: Vaginal hysterectomy: Primary and repeat operations for prolapse.

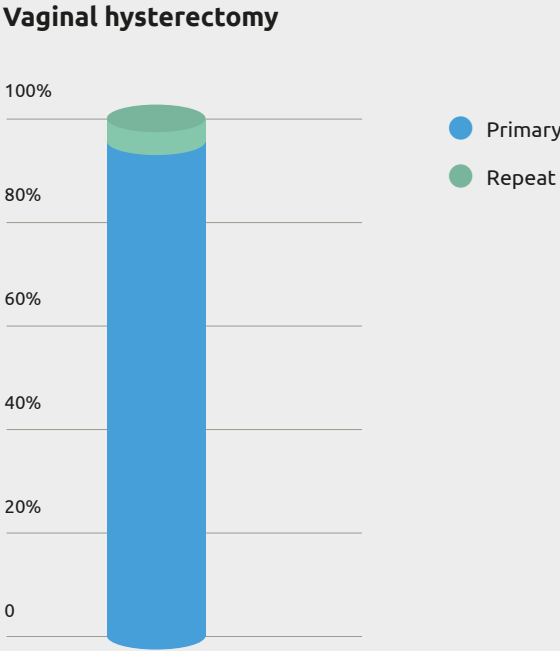


Table 8: Vaginal hysterectomy: Primary and repeat operations for prolapse.

Vaginal hysterectomy	
Primary procedure	13783 (95.8%)
Repeat procedure	614 (4.2%)
Unanswered	3360
Total	17812

CHAPTER 5: Follow-up after surgery

5.1 FOLLOW-UP METHOD

Prespecified methods of follow-up are recorded in the database.

11677 (65.6%) vaginal hysterectomies had the follow-up method recorded. Of these, 90.1% were followed-up in clinic (*Table 9*).

Table 9: Vaginal hysterectomy: Method of follow-up.

Follow-up method	
Clinic	10526 (90.1%)
Postal questionnaire	696 (6.0%)
Telephone	344 (2.9%)
As per local agreement	50 (0.4%)
GP	52 (0.4%)
Online	9 (0.08%)
Unanswered	6135
Total	17812

5.2 FOLLOW-UP INTERVAL AFTER SURGERY

The database records the interval to the 1st follow-up after surgery at 4 prespecified intervals; 6 weeks, 3 months, 6 months and 1 year.

64.8% (11547) of vaginal hysterectomies had the 1st follow-up interval recorded. Follow-up occurred most frequently at 3 months (45.7%) (*Table 10*).

Table 10: Vaginal hysterectomy: Follow-up interval after surgery

Follow up interval	
6 weeks	3559 (30.8%)
3 months	5280 (45.7%)
6 months	2400 (20.8%)
12 months	308 (2.7%)
Unanswered	6265
Total	17812

CHAPTER 6: Global impression of improvement (GII) after surgery

The efficacy of surgery was assessed using patient-reported global impression of improvement (GII).

Concomitant procedures may have a confounding effect on GII. Therefore, GII for both sole procedures and procedures with concomitant operations are reported separately. As the functions of the database only generate the overall GII automatically, data was analysed manually to obtain this information.

6.1 GII AT 1ST FOLLOW-UP

GII at the 1st follow-up was recorded in 59.5% of cases (10602) (*Table 11*).

Overall, 95.0% (10072) of patients who had vaginal hysterectomies were Very Much Better or Much Better

92.1% (594) of VH Only procedures were Very Much Better or Much Better.

95.2% (9478) of VH + Other Procedures were Very Much Better or Much Better.

Table 11: Vaginal hysterectomy: GII at 1st follow-up. n (%)

	Unanswered	VMB	MB	ALB	NC	ALW	MW	VMW	Total
VH only	502	439 (68.1)	155 (24.0)	24 (3.7)	21 (3.2)	3 (0.5)	3 (0.5)	0	1147
VH + other procedures	6708	7460 (74.9)	2018 (20.3)	315 (3.2)	107 (1.1)	23 (0.2)	16 (0.2)	18 (0.2)	16665
Total	7210	7899 (74.5)	2173 (20.5)	339 (3.2)	128 (1.2)	26 (0.2)	19 (0.2)	18 (0.2)	17812

6.2 OVERALL GII AT DIFFERENT FOLLOW-UP INTERVALS

59.1% (10503) of vaginal hysterectomies had both GII and the 1st follow-up interval recorded (*Table 12, shaded area*). At 6 weeks, 96.6% of patients were Very Much Better or Much Better. Of the much smaller number of reviews at 12 months, 87.7% were Very Much Better or Much Better.

Table 12. Overall GII at different follow-up intervals. n (%)

VH	Unanswered	VMB	MB	ALB	NC	ALW	MW	VMW	Total
Unanswered	6193	54	16	2	0	0	0	0	6265
6 weeks	382	2405 (75.7)	663 (20.9)	76 (2.4)	20 (0.6)	6 (0.2)	3 (0.09)	4 (0.1)	3559
3 months	454	3574 (74.1)	1033 (21.4)	148 (3.1)	47 (1.0)	10 (0.2)	7 (0.1)	7 (0.1)	5280
6 months	160	1670 (74.6)	405 (18.1)	93 (4.2)	53 (2.4)	7 (0.3)	6 (0.3)	6 (0.3)	2400
12 months	21	196 (68.3)	56 (19.5)	20 (7.0)	8 (2.8)	3 (1.0)	3 (1.0)	1 (0.3)	308
Total	7210	7899 (74.5)	2173 (20.5)	339 (3.2)	128 (1.2)	26 (0.2)	19 (0.2)	18 (0.2)	17812

CHAPTER 7: Complications of surgery

The database records prespecified intraoperative and postoperative complications. Concomitant procedures may have a confounding effect on the complication rate. Therefore, the complication rate for sole procedures, procedures with concomitant operations and the overall rate are reported separately. As the functions of the database only generate the overall complication rate automatically, data was analysed manually to obtain this information.

7.1 INTRAOPERATIVE COMPLICATIONS

The most common intraoperative complications were; estimated blood loss > 500 ml (1.0%), bladder injury (0.5%) and bowel injury (0.07%) (Table 13, with Table 15 showing the detailed results).

Table 13: Vaginal hysterectomy intraoperative complications.

		%	Risk
Ureteric injury	Overall	0.02	Rare
	VH only	0	
	VH + other procedures	0.02	
Bladder injury	Overall	0.5	Uncommon
	VH only	1.5	
	VH + other procedures	0.4	
Urethral injury	Overall	0.03	Rare
	VH only	0	
	VH + other procedures	0.03	
Bowel injury	Overall	0.07	Rare
	VH only	0.2	
	VH + other procedures	0.06	
Nerve injury	Overall	0	Very rare
	VH only	0	
	VH + other procedures	0	
Estimated blood loss >500 ml	Overall	1.0	Common
	VH only	1.3	
	VH + other procedures	1.0	

7.2 POSTOPERATIVE COMPLICATIONS

The most common postoperative complications were; catheterisation > 10 days (2.3%), readmission within 30 days (4.4%) and return to theatre within 72 hours (0.9%) (Table 14, with Table 15 showing the detailed results).

1 death occurred in a VH Only procedure with no other available information.

Table 14: Vaginal hysterectomy postoperative complications.

		%	Risk
Blood transfusion	Overall	0.3	Uncommon
	VH only	0	
	VH + other procedures	0.3	
Venous thromboembolism	Overall	0.05	Uncommon
	VH only	0.09	
	VH + other procedures	0.05	
Death	Overall	0.006	Very rare
	VH only	0.09	
	VH + other procedures	0	
	1 death in an 86-year-old, VH only, no other details		
Return to theatre within 72 hrs	Overall	0.9	Uncommon
	VH only	0.5	
	VH + other procedures	0.9	
Catheter for > 10 days	Overall	2.3	Common
	VH only	1.5	
	VH + other procedures	2.3	
Readmission within 30 days	Overall	4.4	Common
	VH only	3.3	
	VH + other procedures	4.3	
	512 readmissions – 24 elective, 87 emergency, 401 not specified		

Table 15: Detailed vaginal hysterectomy complications table.

		%	Yes	No	Unrecorded	Total
Ureteric injury	Overall	0.02	4	17493	315	17812
	VH only	0	0	1117	30	1147
	VH + other	0.02	4	16376	285	16665
Bladder injury	Overall	0.5	88	17415	309	17812
	VH only	1.5	17	1101	29	1147
	VH + other	0.4	71	16314	280	16665
Urethral injury	Overall	0.03	4	13765	4043	17812
	VH only	0	0	900	247	1147
	VH + other	0.03	4	12865	3796	16665
Bowel injury	Overall	0.07	12	17483	317	17812
	VH only	0.2	2	1115	30	1147
	VH + other	0.06	10	16368	287	16665
Nerve injury	Overall	0	0	17494	318	17812
	VH only	0	0	1117	30	1147
	VH + other	0	0	16377	288	16665
EBL > 500 ml	Overall	1.0	180	17317	315	17812
	VH only	1.3	14	1103	30	1147
	VH + other	1.0	166	16214	285	16665
Transfusion	Overall	0.3	45	17449	318	17812
	VH only	0	0	1117	30	1147
	VH + other	0.3	45	16332	288	16665
VTE	Overall	0.05	9	16789	1014	17812
	VH only	0.09	1	1083	63	1147
	VH + other	0.05	8	15706	951	16665
Death	Overall	0.006	1	16795	1016	17812
	VH only	0.09	1	1083	63	1147
	VH + other	0	0	15712	953	16665
RTT	Overall	0.9	114	12255	5443	17812
	VH only	0.5	4	751	392	1147
	VH + other	0.9	110	11504	5051	16665
Cath > 10 days	Overall	2.3	279	12042	5491	17812
	VH only	1.5	11	741	395	1147
	VH + other	2.3	268	11301	5096	16665
Readmission	Overall	4.4	512	11601	5699	17812
	VH only	3.3	24	709	414	1147
	VH + other	4.3	488	10892	5285	16665

CHAPTER 8: Limitations of the audit

Not every vaginal hysterectomy performed for the treatment of prolapse over the last 10 years has 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 Consultants who are not members of BSUG. A comparison to Hospital Episode Statistics (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.

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