

INFORMATION
ANALYSIS
DIRECTORATE



Retrospective Review of Surgery for Urogynaecological Prolapse and Stress Urinary Incontinence using Tape or Mesh Experimental Statistics, Northern Ireland, April 2008 - March 2017



Department of
Health

An Roinn Sláinte

Mánnystrie O Poustie

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Reader Information

Purpose	<p>This review aims to retrospectively analyse Hospital Inpatient System (HIS) data pertaining to urogynaecological surgery for the treatment of pelvic organ prolapse (POP) and stress urinary incontinence (SUI) using vaginal mesh or tape, in comparison with non-mesh/tape procedures for the same indications. Data on procedures carried out between 2008 and 2017 were analysed to determine the frequency of such surgery and the rates of removal of mesh or tape. The review is specific to urogynaecological surgery for SUI and prolapse, and does not include the use of mesh in other areas, such as in rectopexy for rectal prolapse or inguinal hernia repair. These patients would only appear in the data if they had also undergone urogynaecological surgery within the inclusion groups. The analysis is restricted to the OPCS operating procedure coding system and is unable to account for different mesh or tape product characteristics or materials, manufacturers, or variation of surgical technique.</p>
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Statistician	Sally Pattison
Email	Sally.Pattison@health-ni.gov.uk
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Introduction

In line with ongoing work surrounding surgery using mesh and tapes in the treatment of Pelvic Organ Prolapse (POP) and Stress Urinary Incontinence (SUI) both locally and nationally, a retrospective review of Hospital Inpatient System (HIS) data was requested to provide a national count for Northern Ireland of patients who have undergone an operation relating to the insertion, repair or removal of vaginal mesh or tape.

HIS data are recorded by staff in hospitals assigning clinical coding to the diagnoses made and procedures and treatments carried out for a patient during admission to hospital, either as an inpatient or a day case. All coded records are held on a central database.

HIS is the data source for a wide range of healthcare analysis used by a variety of organisations including the Health and Social Care Board (HSCB) and the Department of Health.

This review followed a similar methodology to the review carried out in England by NHS Digital and has therefore enabled a comparison of the surgical insertion and removal rates to be undertaken with service delivery in England. In carrying out this analysis, it is recognised that the data is routinely collected administrative data, which is not collected to provide an accurate analysis of patient outcomes and the benefits or safety of any surgery.

Methodology

Hospital Inpatient System (HIS) statistics were used to collate the number of patients in Northern Ireland who have had mesh/tape procedures for stress urinary incontinence (SUI) and urogynaecological prolapse between 2008 and 2017, using surgical procedure codes provided by the UK Terminology Centre (UKTC).

For each year of the study, analysis has determined the number of women with insertion procedures per year subdivided by SUI/prolapse grouping and further split into individual surgical procedure codes.

A second set of surgical procedure codes was used to count patients who were subsequently readmitted for surgical procedures for total removal, partial removal or total and partial removal of mesh or tape.

Difference in Approach to the Retrospective Review in England

Clinical codes for the relevant surgical procedures and review methodology were kindly shared by NHS England and their methodology was followed where possible. However due to differences in data collection between NI and England it has not been possible to match exactly their analysis specifically in relation to outpatient appointments and comparison with an age-matched cohort outside of the urogynaecological study group.

Limitations of the report

This analysis does not include variables such as the type of mesh used, the surgical technique or patient demographics as these are not recorded by HIS. Further, the HIS data does not give a measure of severity of the primary complaint or any subsequent complications. The analysis of the data can highlight the extent of practice for the surgery; however it cannot provide an insight into

any possible cause. Any findings and conclusions reached are also subject to the accuracy of the clinical coding at time of entry.

Comparison with NHS Digital Review

Overall, the outcome of this review for Northern Ireland and its findings are very consistent with the data and analysis that was presented in the NHS Digital's review for the NHS in England. Although, pro rata, more insertions were carried out locally than in England, the rates of removal were broadly similar.

The conclusions reached by the Policy Innovation and Research Unit (PIRU) in their commentary on the review in England are also applicable in the Northern Ireland context.

The PIRU commentary notes that the findings are consistent with many studies in confirming that some women will experience adverse effects of mesh and tape implants to the extent that removal is necessary; however the scale of any problem cannot be accurately determined.

This commentary can be viewed [here](#).

Key Points

1. Between 2008/09 and 2016/17, 8,449 patients had urogynaecological treatment procedures. Of these, 4,791 (56%) patients had procedures for stress urinary incontinence and 3,757 (44%) for urogynaecological prolapse. Please note that it is possible for the same woman to have both procedure types and during the study period this was true for 99 women.
2. The number of patients with reported urogynaecological procedures to treat stress urinary incontinence or urogynaecological prolapse reduced for all except one year from 1,222 patients in 2008/09 to 613 patients in 2016/17. This equates to an overall reduction of 50% between 2008/09 and 2016/17.

Table 1: Number and prevalence of urogynaecological procedures for treatment of urogynaecological prolapse or stress urinary incontinence in N. Ireland and England between 2008/09 and 2016/17

	N. Ireland	England
Female resident population in 2011 (Source: 2011 census)	923,540	26,943,308
Average number of women with procedure for prolapse/SUI per year ¹	939	21,567
Average number of women with procedure for prolapse per year ¹	417	10,698
Average number of women with procedure for SUI per year ¹	532	11,282
Prolapse procedures as a % of all prolapse/SUI procedures	44%	49%
SUI procedures as a % of all prolapse/SUI procedures	56%	51%
Average rate per year of procedures for prolapse or SUI (per 1,000 women)	1.02	0.80
Average rate per year of procedures for prolapse (per 1,000 women)	0.45	0.40
Average rate per year of procedures for SUI (per 1,000 women)	0.58	0.42
Average number of women with mesh/tape insertion procedure per year ²	609	14,170
Average number of women with mesh insertion procedure for prolapse per year ²	77	3,002
Average number of women with tape insertion procedure for SUI per year ²	532	11,168
Mesh insertion for prolapse procedures as a % of all mesh/tape insertions	13%	21%
Tape insertion for SUI procedures as a % of all mesh/tape insertions	87%	79%
Average number of women with removal after mesh/tape insertion for prolapse/SUI per year ³	12.44	350.00
Average number of women with removal after mesh insertion for prolapse per year ³	0.89	26.67
Average number of women with removal after tape insertion for SUI per year ³	11.56	323.33
Estimated rate of removal for mesh/tape (% of mesh/tape insertions) ⁴	2.04%	2.47%
Estimated rate of removal for mesh (% of mesh for prolapse insertion) ⁴	1.15%	0.89%
Estimated rate of removal for tape (% of tape for SUI insertions) ⁴	2.17%	2.90%

Table 1 notes:

¹ Number of women with prolapse and/or SUI procedures (excluding mesh/tape removals) during 2008/09 - 2016/17, averaged over 9 years. Please note that the same woman may have had both procedure types, meaning that the number of women with procedure for prolapse/SUI may be less than the sum of the number of women with procedure for prolapse and the number of women with procedure for SUI. In Northern Ireland during the study period, on average 10 women per year had both procedure types.

² Number of women with mesh and/or tape insertion procedures during 2008/09 - 2016/17, averaged over 9 years

³ Sum of the number of women with removals per year, averaged over 9 years

⁴ Sum of the number of women with removals per year, reported as a % of the number of women with insertions during 2008/09 - 2016/17

Main findings

This report contains key information based on data relating to activity that occurred between April 2008 and March 2017. Findings are summarised by the specific patient groupings created for this analysis based on the urogynaecological procedure group type.

TAPE INSERTION PROCEDURES FOR STRESS URINARY INCONTINENCE (SUI)

- Between 2008/09 and 2016/17, 4,784 patients had a reported tape insertion procedure for stress urinary incontinence.
- In 2016/17, 323 patients had an insertion for this procedure group type, equating to a reduction of 51% from 2008/09, when 662 patients were recorded.
- Between 2008/09 and 2016/17, 10 patients had readmissions for a removal procedure occurring within 30 days of a confirmed insertion procedure. This equates to an average removal rate of 2.2 per 1,000 patients.
- For patients who had a removal procedure more than 30 days after their initial insertion, the highest rate of readmissions occurred in the reporting year following the insertion, with the exceptions of insertions in 2008/09 and 2011/12, which had the highest rate of readmission in the same year as the insertion.
- Patients who had an insertion in 2008/09 had a removal rate of 9.1 patients per 1,000 in 2009/10, and patients who had an insertion in 2015/16 had a removal rate of 11.8 patients per 1,000 in 2016/17. For insertions between 2008/09 and 2015/16, the removal rate in the year following the insertion year ranged 1.7 to 13.2 patients per 1,000.

NON-TAPE PROCEDURES FOR STRESS URINARY INCONTINENCE (SUI)

- Between 2008/09 and 2016/17, 13 patients had a reported non-tape procedure for stress urinary incontinence.
- In 2016/17, 2 patients had an insertion for this procedure group type, whereas no patients were recorded in 2008/09.
- During 2008/09 – 2017/18, there were no readmissions for a removal procedure following a confirmed insertion of this type.

MESH INSERTION PROCEDURES FOR UROGYNÆCOLOGICAL PROLAPSE

- Between 2008/09 and 2016/17, 694 patients had a reported mesh insertion procedure for urogynaecological prolapse.
- In 2016/17, 38 patients had an insertion for this procedure group type, equating to a reduction of 69% from 2008/09, when 121 patients were recorded.
- There were 9 reported readmissions for a removal procedure more than 30 days after the identified insertion procedure, and none within 30 days.

NON-MESH PROCEDURES FOR UROGYNÆCOLOGICAL PROLAPSE

- Between 2008/09 and 2016/17, 3,131 patients had a reported non-mesh procedure for urogynaecological prolapse.
- In 2016/17, 251 patients had an insertion for this procedure group type, equating to a reduction of 43% from 2008/09, when 441 patients were recorded.
- During 2008/09 – 2017/18, there were no readmissions within 30 days for a removal procedure following a confirmed insertion of this type, and only 3 readmissions for removal more than 30 days after the insertion.

Patients with a Urogynaecological Procedure for treatment of Urogynaecological Prolapse or Stress Urinary Incontinence

Unique identifiers based on Health and Care Number or date of birth + postcode + sex were used to identify, track and count individual patients. Figure 1 shows that the number of patients having urogynaecological procedures for treatment of urogynaecological prolapse or SUI, as described in Appendix A, has decreased by 50% from 1,222 patients in 2008/09 to 613 patients in 2016/17. Over the same period, counts of patients who have had urogynaecological procedures that relate to the removal of material associated with the insertion procedures found in Appendix B have varied ranging from 11 in 2014/15 to 25 in 2012/13.

Please note that not all patients who had a removal procedure during the audit review period will have had a corresponding initial index procedure identified within the same period. This may be because they had that procedure prior to the review period or that the procedure was performed in a hospital outside of N. Ireland or was undertaken in a private hospital setting and funded privately. These patients have been included in the counts of individual removal procedures identified by OPCS4 code (Figure 1), where the removals are not grouped by the type of preceding insertion. However, they have been excluded from analyses where removals are reported according to the group type of the index insertion procedure or are used to determine removal rates per 1,000 insertions. Between 2008/09 and 2016/17, 63 people who had a removal procedure, did not have an initial index procedure identified within HIS for the period of the audit.

The remainder of this report focuses on each insertion procedure group type in turn. It considers the prevalence of the OPCS procedure codes that map patients to the specific insertion group type and, for patients who have had an initial index procedure reported within HIS data between 2008/09 to 2016/17, it breaks down the number of insertions and removals by both year of insertion and year of removal.

Figure 1: Count of patients with a reported urogynaecological procedure for treatment of stress urinary incontinence or urogynaecological prolapse by procedure type April 2008 – March 2017

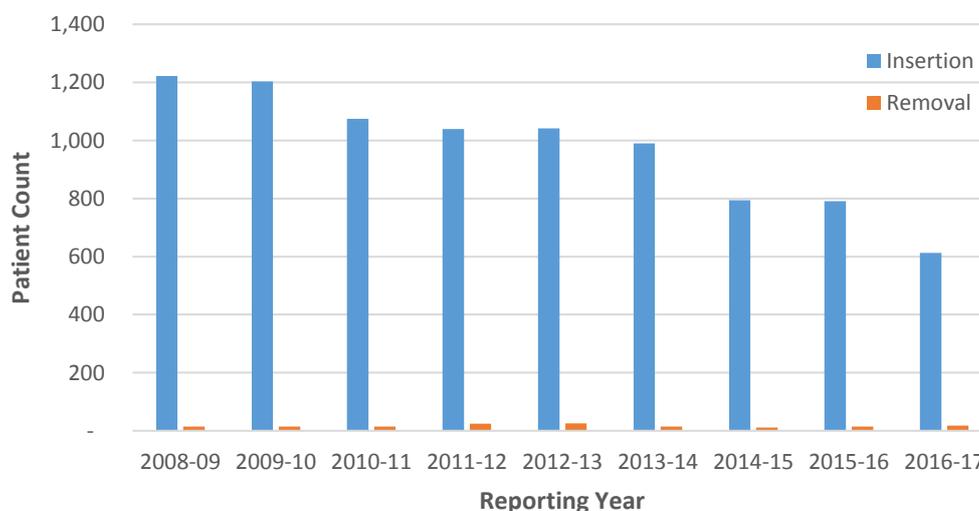


Figure 1 notes:

Patients were counted only once per procedure type group (Mesh for Prolapse, Tape for SUI, Non-Mesh for Prolapse, Non-Tape for SUI) per year. However, if they underwent procedures in different groups within a year they will have been

counted multiple times for that year. Due to this opportunity for multiple counting, Figure 1 may overestimate the number of individual patients who had insertions or removals per year.

As the same patient may be counted in multiple years for an insertion or a removal procedure, summing across years may provide an overestimate of the count of patients with insertions or removals. Additionally, as removal procedures may be partial, it is possible that the same patient may be counted for a removal procedure in multiple years following a single insertion.

Certain procedure code combinations (P23.8+Y26.4, P24.8+Y26.4, Q54.8+Y26.4, M53.8+Y26) are not exclusive to, but may include, mesh/tape related removal procedures. For this review, the occurrence of a prior mesh/tape insertion procedure during the reporting period was taken as an indicator that a subsequent removal procedure coded this way was probably related to mesh/tape. Therefore, as only patients with insertion procedures recorded during the reporting period have been included in the removal counts, these code combinations have also been included in the counts (as outlined in Appendix B).

Tape Insertion Procedures for Stress Urinary Incontinence (SUI)

Table 2 shows the summed value between 2008/09 to 2016/17 of the number of patients per financial year who have had a reported procedure that maps to this specific procedure group type. This will count patients who are present in separate reporting years multiple times. Please note that a patient counted in Table 2 may not necessarily be included within the tape insertion for SUI grouping in Figure 2, Figure 3 or Table 3 depending on which other codes were reported within the same episode. Where multiple procedures belonging to different insertion procedure group types were reported, the episode was analysed in only one procedure group type with priority being applied in the order: Mesh for Prolapse > Tape for SUI > Non-Mesh for Prolapse > Non-Tape for SUI.

Introduction of tension-free vaginal tape and Introduction of transobturator tape were the only recorded procedures for patients within this group.

Table 2: Instances of patients identified by OPCS4 code as Tape Insertions for Stress Urinary Incontinence Procedure Group Type (2008/09 to 2016/17)

OPCS4 Code	OPCS4 Description	Instances of Patients
M53.3	Introduction of tension-free vaginal tape	3,444
M53.6	Introduction of transobturator tape	1,490
M57.1	Introduction of vaginal tape NEC	0
M53.8+Y02.2	Other specified vaginal operations to support outlet of female bladder + Insertion of prosthesis into organ NOC	0

Table 2 notes:

Patients were counted once per procedure code per year and the sum of these annual counts has been presented as Instances of Patients. Consequently, if a patient underwent the same procedure multiple times in different years they will have been counted multiple times. Additionally, the same patient may have had multiple procedures counted under different OPCS4 Codes. Due to both of these opportunities for multiple counting, a sum of Table 2 figures may be an overestimate of the number of patients in this procedure type group.

Figure 2 shows the reduction over time in patients having an insertion procedure using tape intended for treatment of SUI. Apart from 2011/12 to 2012/13, there has been a year-on-year reduction in this type of insertion. Over the review period, the number of patients dropped from 662 in 2008/09 to 323 in 2016/17, equating to a decrease of 51%.

Figure 2: Counts of patients with a reported insertion procedure in the grouping of tape intended for treatment of Stress Urinary Incontinence (SUI), by year of insertion (2008/09 to 2016/17)

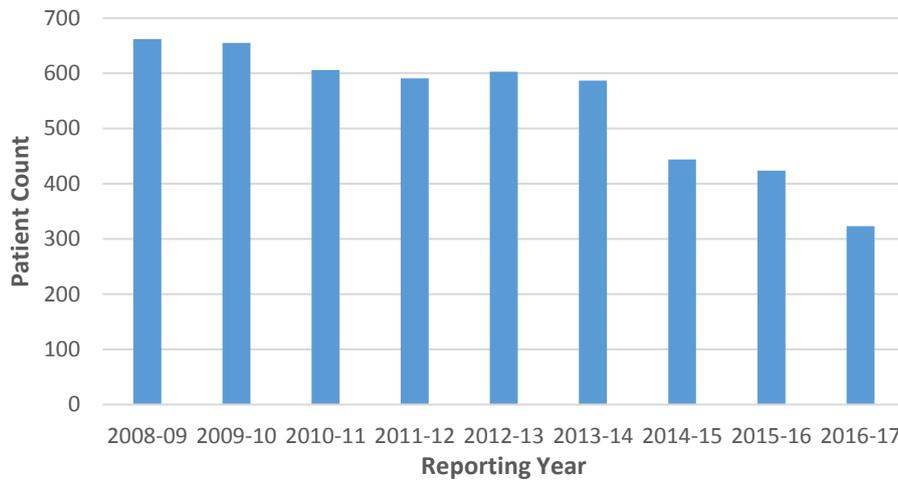


Figure 2 notes:

Patients were counted only once per year even if multiple procedures with different OPCS Codes occurred within a year. Therefore, Figure 2 numbers are exact counts of the patients in this procedure type group per year.

As the same patient may be counted in multiple years, summing across years may provide an overestimate of the count of patients in this procedure type group.

Please note that the numbers of patients with reported tape for treatment of SUI insertions who had a subsequent removal within 30 days of the insertion procedure were so low (<3 per year) that the presentation of rates per 1,000 patients with that insertion procedure type is inappropriate.

Figure 3 shows the counts of patients with insertion and subsequent removal procedures more than 30 days after the reported insertion, broken down by both the year of the initial insertion and the year of the removal procedure. For all insertion years except 2008/09 and 2011/12, the highest number of readmissions for removal occurred in the reporting year following the insertion. In 2008/09 and 2011/12, the highest number of readmissions was in the same year as the insertion. From 2012/13 onwards, the number of readmissions for a removal procedure within the first two years of insertion was less than five. Please note that the number of removal years available decreases in the more recent insertion years.

Figure 3: Count of patients with recorded insertion procedures in the grouping of tape intended for treatment of Stress Urinary Incontinence (SUI), who had a subsequent removal more than 30 days after the insertion date, by both year of insertion and removal procedure year (2008/09 to 2016/17)

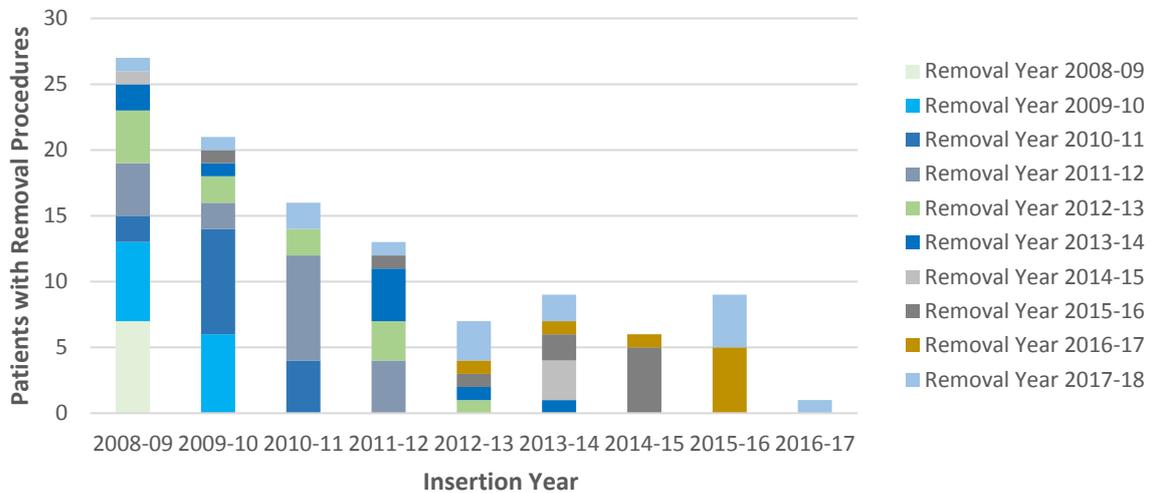


Figure 3 notes:

Patients were counted only once per year of insertion or removal procedure. However, as removal procedures may be partial, it is possible that the same patient may be counted in multiple Removal Years following a single insertion. Therefore, although Removal Year counts are exact, their sum may be an overestimate of the number of patients experiencing removals for a particular Insertion Year.

The same patient may be counted in multiple Insertion Years.

Certain procedure code combinations (P23.8+Y26.4, P24.8+Y26.4, Q54.8+Y26.4, M53.8+Y26) are not exclusive to, but may include, mesh/tape related removal procedures. For this review, the occurrence of a prior mesh/tape insertion procedure during the reporting period was taken as an indicator that a subsequent removal procedure coded this way was probably related to mesh/tape. Therefore, as only patients with insertion procedures recorded during the reporting period have been included in the removal counts, these code combinations have also been included in the counts (as outlined in Appendix B).

Table 3 shows the variation over time in removal rate (per 1,000 insertions) for removals that occurred more than 30 days after an index insertion procedure, broken down by both insertion year and removal year. The highest removal rate for each insertion year was either the year of the insertion or the following year. Removal rates for the same year as the insertion decreased in an almost year-on-year fashion from 10.6 in 2008-09 to 0.0 in 2016-17. As the number of removals for insertions performed after 2011/12 is relatively small (<10 per insertion year) removal rates for these years may be less accurate.

Table 3: Rate of removal per 1,000 patients with recorded insertion procedures in the grouping of tape intended for treatment of Stress Urinary Incontinence (SUI), who had a subsequent removal procedure more than 30 days after the insertion, by year of insertion and year of removal (2008/09 to 2016/17)

Insertion Year	No. of patients with a reported insertion	Removal rate per year per 1000 insertions that occurred within initial insertion year								
		2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17
2008-09	662	10.6	9.1	3.0	6.0	6.0	3.0	1.5	0.0	0.0
2009-10	655	-	9.2	12.2	3.1	3.1	1.5	0.0	1.5	0.0
2010-11	606	-	-	6.6	13.2	3.3	0.0	0.0	0.0	0.0
2011-12	591	-	-	-	6.8	5.1	6.8	0.0	1.7	0.0
2012-13	603	-	-	-	-	1.7	1.7	0.0	1.7	1.7
2013-14	587	-	-	-	-	-	1.7	5.1	3.4	1.7
2014-15	444	-	-	-	-	-	-	0.0	11.3	2.3
2015-16	424	-	-	-	-	-	-	-	0.0	11.8
2016-17	323	-	-	-	-	-	-	-	-	0.0

Table 3 notes:

Patients were counted only once per year of insertion or removal procedure. However, as removal procedures may be partial, it is possible that the same patient may be counted in multiple Removal Years following a single insertion.

The same patient may also be counted in multiple Insertion Years if they have undergone multiple insertion procedures in different years.

Certain procedure code combinations (P23.8+Y26.4, P24.8+Y26.4, Q54.8+Y26.4, M53.8+Y26) are not exclusive to, but may include, mesh/tape related removal procedures. For this review, the occurrence of a prior mesh/tape insertion procedure during the reporting period was taken as an indicator that a subsequent removal procedure coded this way was probably related to mesh/tape. Therefore, as only patients with insertion procedures recorded during the reporting period have been included in the removal counts, these code combinations have also been included in the counts (as outlined in Appendix B).

Data has been combined for 2008/09 – 2016/17 to approximate a removal rate for each year following the index insertion procedure (Table 4). Across all years of the study period, the highest removal rate (8.7 women with removals per 1,000 women with tape insertions) occurred 1 year after insertion and had decreased to 0 by 7 years after insertion.

Table 4: Approximated rate of removal per 1,000 patients with recorded insertion procedures in the grouping of tape intended for treatment of Stress Urinary Incontinence (SUI), by time since insertion procedure

Time of removal of tape for SUI	Number of women with tape procedures for which data available¹	Number of women with removal procedures²	Approximated removal rate per 1,000 women³
Year of insertion	4,784	33	6.9
1 year after insertion	4,461	39	8.7
2 years after insertion	4,037	13	3.2
3 years after insertion	3,593	8	2.2
4 years after insertion	3,006	7	2.3
5 years after insertion	2,403	2	0.8
6 years after insertion	1,812	2	1.1
7 years after insertion	1,206	0	0.0
8 years after insertion	551	0	0.0

Table 4 notes:

¹ Sum of the number of women per year with insertion procedures for those years that could have a removal during the study period at the stated time of removal. For example, women with insertions in 2016/17 could not have a removal during the study period that was one or more years after insertion. Therefore, they were only included in the 'Year of insertion' counts. As this is the sum of the number of women per year, the same patient may have been counted multiple times for insertions if they have undergone multiple insertion procedures in different years.

² Sum of the number of women per year who had an insertion procedure during the study period followed by a removal procedure at the stated time of removal. As removal procedures may be partial and a women may have undergone multiple insertion procedures, it is possible that the same patient may have been counted multiple times for removals in different years.

³ This is an approximation of the removal rate as the same patient may have been counted multiple times for insertions or removals as detailed above.

Non-Tape Insertion Procedures for Stress Urinary Incontinence (SUI)

Table 5 shows the summed value between 2008/09 to 2016/17 of the number of patients per financial year who have had the reported procedure that maps to this specific procedure group type. This will count patients who are present in separate reporting years multiple times. Please note that a patient counted in Table 5 may not necessarily be included within the non-tape insertion for SUI grouping in Figure 4 depending on which other codes were reported within the same episode. Where multiple procedures belonging to different insertion procedure group types were reported, the episode was analysed in only one procedure group type with priority being applied in the order: Mesh for Prolapse > Tape for SUI > Non-Mesh for Prolapse > Non-Tape for SUI.

Table 5: Instances of patients identified by OPCS4 code as Non-Tape Insertions for Stress Urinary Incontinence Procedure Group Type

OPCS4 Code	OPCS4 Description	Instances of Patients
M52.1	Suprapubic sling operation	13

Table 5 notes:

Patients were counted once per procedure code per year and the sum of these annual counts has been presented as Instances of Patients. Consequently, if a patient underwent the same procedure multiple times in different years they will have been counted multiple times. Due to this opportunity for multiple counting, Table 5 figures may be an overestimate of the number of patients in this procedure type group.

Figure 4 shows that, throughout the review period, fewer than 4 patients per year had non-tape procedures for the treatment of stress urinary incontinence. No subsequent removal procedures were reported for any of these patients.

Figure 4: Counts of patients with a reported insertion procedure in the grouping of non-tape intended for treatment of Stress Urinary Incontinence (SUI), by year of insertion (2008/09 to 2016/17)

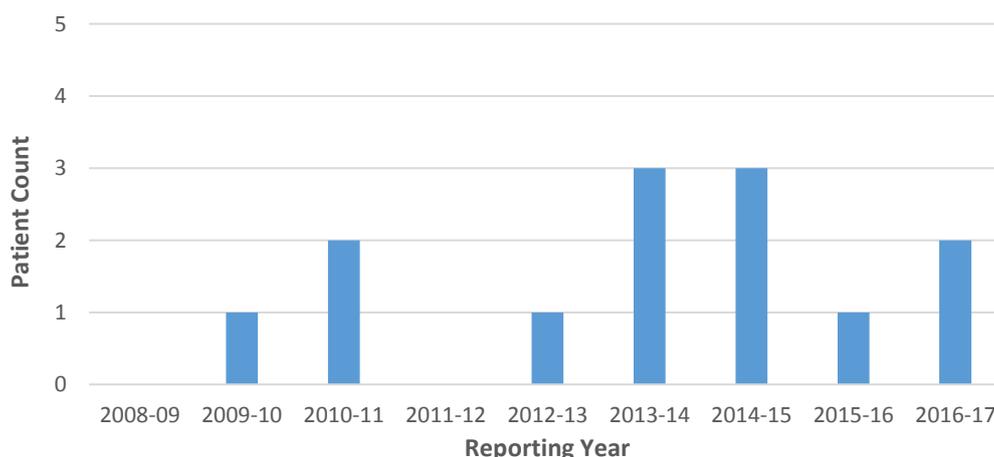


Figure 4 notes:

Patients were counted only once per year even if multiple procedures with different OPCS Codes occurred within a year. Therefore, Figure 4 numbers are exact counts of the patients in this procedure type group per year.

As the same patient may be counted in multiple years, summing across years may provide an overestimate of the count of patients in this procedure type group.

Mesh Insertions for Urogynaecological Prolapse

Table 6 shows the summed value between 2008/09 to 2016/17 of the number of patients per financial year who have had a reported procedure that maps to this specific procedure group type. This will count patients who are present in separate reporting years multiple times. Please note that all patients counted in Table 6 will be included within the mesh insertion for prolapse grouping in Figure 5 as this is the priority procedure group type for analysis.

Sacrocolpopexy (mesh suspension of vault of vagina), anterior colporrhaphy with mesh reinforcement and posterior colporrhaphy with mesh reinforcement were the most common procedures during the review period.

Table 6: Instances of patients identified by OPCS4 code as Mesh Insertions for Urogynaecological Prolapse Procedure Group Type

OPCS4 Code	OPCS4 Description	Instances of Patients
P23.6	Anterior colporrhaphy with mesh reinforcement	180
Q54.6	Infracoccygeal hysteropexy	4
P23.7	Posterior colporrhaphy with mesh reinforcement	132
P24.5	Repair of vault of vagina with mesh using abdominal approach	23
P24.6	Repair of vault of vagina with mesh using vaginal approach	21
P24.2	Sacrocolpopexy (mesh suspension of vault of vagina)	344
Q54.5	Sacrohysteropexy	64
Q54.4	Suspension of uterus using mesh NEC	3

Table 6 notes:

Patients were counted once per procedure code per year and the sum of these annual counts has been presented as Instances of Patients. Consequently, if a patient underwent the same procedure multiple times in different years they will have been counted multiple times. Additionally, the same patient may have had multiple procedures counted under different OPCS4 Codes. Due to both of these opportunities for multiple counting, a sum of Table 6 figures may be an overestimate of the number of patients in this procedure type group.

Across the review period, Figure 5 shows an overall drop in patients having a mesh insertion procedure for the treatment of urogynaecological prolapse. The number of patients decreased from 121 in 2008/09 to 38 in 2016/17, equating to a 69% reduction.

Figure 5: Counts of patients with a reported insertion procedure in the grouping of mesh intended for treatment of urogynaecological prolapse, by year of insertion (2008/09 to 2016/17)

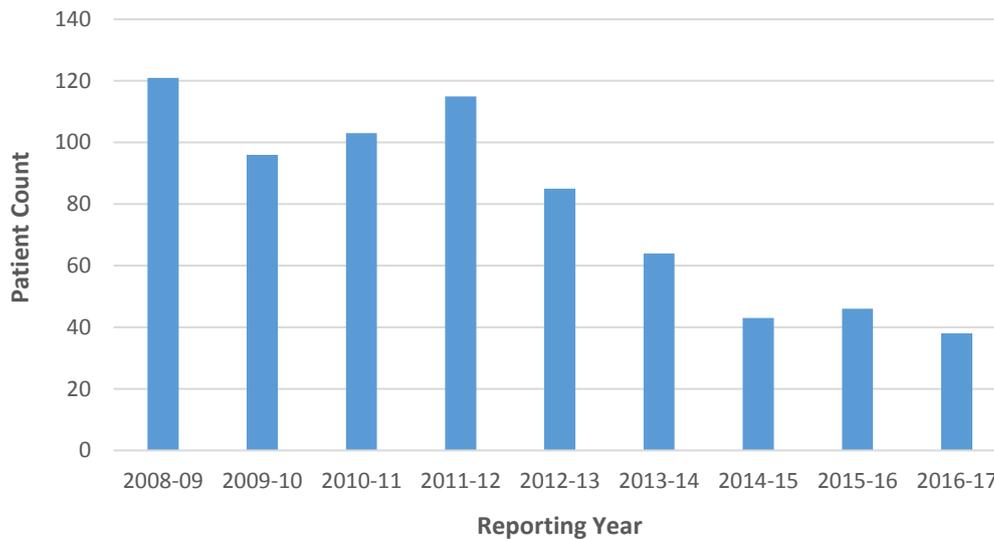


Figure 5 notes:

Patients were counted only once per year even if multiple procedures with different OPCS Codes occurred within a year. Therefore, Figure 5 numbers are exact counts of the patients in this procedure type group per year.

As the same patient may be counted in multiple years, summing across years may provide an overestimate of the count of patients in this procedure type group.

Throughout the review period, no removal procedures within 30 days of a mesh insertion procedure for treatment of urogynaecological prolapse were reported. For any year of insertion, no more than 2 patients had a subsequent removal more than 30 days after the insertion procedure.

Please note that the numbers of patients with reported removals following insertions of mesh for urogynaecological prolapse were so low (<3 per year) that the presentation of rates per 1,000 patients with that insertion procedure type is inappropriate.

Non-Mesh Insertions for Urogynaecological Prolapse

Table 7 shows the summed value between 2008/09 and 2016/17 of the number of patients per financial year who have had a reported procedure that maps to this specific procedure group type. This will count patients who are present in separate reporting years multiple times. Please note that a patient counted in Table 7 may not necessarily be included within the non-mesh insertion for urogynaecological prolapse grouping in Figure 6 depending on which other codes were reported within the same episode. Where multiple procedures belonging to different insertion procedure group types were reported, the episode was analysed in only one procedure group type with priority being applied in the order: Mesh for Prolapse > Tape for SUI > Non-Mesh for Prolapse > Non-Tape for SUI.

Anterior and posterior colporrhaphy NEC and Repair of enterocele NEC were the most common procedures during the review period.

Table 7: Instances of patients identified by OPCS4 code as non-mesh insertions for urogynaecological prolapse procedure group type

OPCS4 Code	OPCS4 Description	Instances of Patients
P22.1	Anterior and posterior colporrhaphy and amputation of cervix uteri	29
P22.2	Anterior colporrhaphy and amputation of cervix uteri NEC	26
P22.3	Posterior colporrhaphy and amputation of cervix uteri NEC	12
P22.8	Other specified repair of prolapse of vagina and amputation of cervix uteri	0
P22.9	Unspecified repair of prolapse of vagina and amputation of cervix uteri	6
P23.1	Anterior and posterior colporrhaphy NEC	2,986
P23.4	Repair of enterocele NEC	389
P23.5	Paravaginal repair	45
P23.8	Other specified other repair of prolapse of vagina	27
P23.9	Unspecified other repair of prolapse of vagina	33

Table 7 notes:

Patients were counted once per procedure code per year and the sum of these annual counts has been presented as Instances of Patients. Consequently, if a patient underwent the same procedure multiple times in different years they will have been counted multiple times. Additionally, the same patient may have had multiple procedures counted under different OPCS4 Codes. Due to both of these opportunities for multiple counting, a sum of Table 7 figures may be an overestimate of the number of patients in this procedure type group.

Across the review period, Figure 6 shows an overall drop in patients having a mesh insertion procedure for treatment of urogynaecological prolapse. The number of patients decreased from 441 in 2008/09 to 251 in 2016/17, equating to a 43% reduction.

Figure 6: Counts of patients with a reported insertion procedure in the grouping of non-mesh intended for treatment of urogynaecological prolapse, by year of insertion (2008/09 to 2016/17)

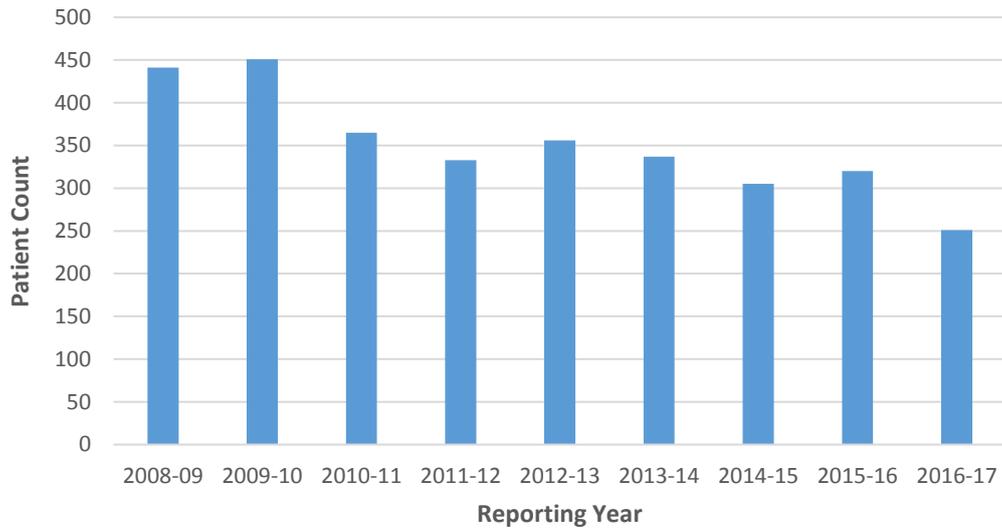


Figure 6 notes:

Patients were counted only once per year even if multiple procedures with different OPCS Codes occurred within a year. Therefore, Figure 6 numbers are exact counts of the patients in this procedure type group per year.

As the same patient may be counted in multiple years, summing across years may provide an overestimate of the count of patients in this procedure type group.

Between 2008/09 and 2016/17, no removal procedures within 30 days of a non-mesh insertion procedure for treatment of urogynaecological prolapse were reported. Across the period, only 3 patients had a subsequent removal more than 30 days after the insertion procedure (2 in 2009/10 and 1 in 2015/16).

Appendix A – OPCS4 Codes to Identify Index Procedure Type Grouping

Procedure Type Grouping	OPCS Code	Procedure Description
Mesh Insertions for Prolapse	P23.6	Anterior colporrhaphy with mesh reinforcement
Mesh Insertions for Prolapse	P23.7	Posterior colporrhaphy with mesh reinforcement
Mesh Insertions for Prolapse	P24.5	Repair of vault of vagina with mesh using abdominal approach
Mesh Insertions for Prolapse	P24.6	Repair of vault of vagina with mesh using vaginal approach
Mesh Insertions for Prolapse	Q54.4	Suspension of uterus using mesh NEC
Mesh Insertions for Prolapse	Q54.5	Sacrohysteropexy
Mesh Insertions for Prolapse	Q54.6	Infracoccygeal hysteropexy
Mesh Insertions for Prolapse	P24.2	Sacrocolpopexy (mesh suspension of vault of vagina)
Non-Mesh procedures for Prolapse	P22.1	Anterior and posterior colporrhaphy and amputation of cervix uteri
Non-Mesh procedures for Prolapse	P22.2	Anterior colporrhaphy and amputation of cervix uteri NEC
Non-Mesh procedures for Prolapse	P22.3	Posterior colporrhaphy and amputation of cervix uteri NEC
Non-Mesh procedures for Prolapse	P22.8	Other specified repair of prolapse of vagina and amputation of cervix uteri
Non-Mesh procedures for Prolapse	P22.9	Unspecified repair of prolapse of vagina and amputation of cervix uteri
Non-Mesh procedures for Prolapse	P23.1	Anterior and posterior colporrhaphy NEC
Non-Mesh procedures for Prolapse	P23.4	Repair of enterocele NEC
Non-Mesh procedures for Prolapse	P23.5	Paravaginal repair
Non-Mesh procedures for Prolapse	P23.8	Other specified other repair of prolapse of vagina
Non-Mesh procedures for Prolapse	P23.9	Unspecified other repair of prolapse of vagina
Non-tape procedures for Stress Urinary Incontinence	M52.1	Suprapubic sling operation
Tape Insertions for Stress Urinary Incontinence	M53.3	Introduction of tension-free vaginal tape
Tape Insertions for Stress Urinary Incontinence	M53.6	Introduction of transobturator tape
Tape Insertions for Stress Urinary Incontinence	M57.1	Introduction of vaginal tape NEC
Tape Insertions for Stress Urinary Incontinence	M53.8 + Y02.2	Other specified vaginal operations to support outlet of female bladder + Insertion of prosthesis into organ NOC

Appendix B – OPCS4 Codes to Identify Removal Procedures

OPCS Code	Procedure Description	Removal Type
M53.5	Partial removal of tension-free vaginal tape	Partial
M57.3	Partial removal of vaginal tape NEC	Partial
M57.4	Partial removal of transobturator tape	Partial
P28.2	Partial removal of prosthetic material from previous repair of vaginal prolapse	Partial
P30.2	Partial removal of prosthetic material from previous repair of vaginal vault prolapse	Partial
Q57.1	Partial removal of prosthetic material from previous suspension of uterus	Partial
M53.4	Total removal of tension-free vaginal tape	Total
M53.7	Total removal of transobturator tape	Total & Partial
M57.2	Total removal of vaginal tape NEC	Total
P28.1	Total removal of prosthetic material from previous repair of vaginal prolapse	Total
P30.1	Total removal of prosthetic material from previous repair of vaginal vault prolapse	Total
Q54.7	Total removal of prosthetic material from previous suspension of uterus	Total
Used in Readmission Analysis Only		
M53.8 + Y26.4	Other specified vaginal operations to support outlet of female bladder & Removal of other repair material from organ NOC	Total & Partial
P23.8 + Y26.4	Other specified other repair of prolapse of vagina & Removal of other repair material from organ NOC	Total & Partial
P24.8 + Y26.4	Other specified repair of vault of vagina & Removal of other repair material from organ NOC	Total & Partial
Q54.8 + Y26.4	Other specified operations on other ligament of uterus & Removal of other repair material from organ NOC	Total & Partial