

Review Article

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Litigation in thyroid surgery: a pan-specialty review of National Health Service (UK) data

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Abstract

Objective. Thyroid surgery carries risks that significantly impact patients. This paper describes the landscape of thyroid surgery related litigation claims in the National Health Service from April 2015 to April 2020, to establish learning points in order to improve patient care and minimise litigation risk.

Methods. Data were requested from National Health Service Resolution and Hospital Episode Statistics. Claims were classified into operative and non-operative causes. Subspecialty information, incident details and claim costings were analysed.

Results. Sixty claims were identified. Thirty-eight claims (63.3 per cent) were closed, with an average total claim cost of £68 816 and average damages paid of £36 349. Claims related to diagnostic issues were most common ($n = 19$); of claims associated with operative causes ($n = 30$), those relating to nerve injury were most common ($n = 8$), with issues of nerve monitoring and consent being cited.

Conclusion. Utilisation of well-established protocols will likely reduce litigation in thyroid surgery, as we move towards a landscape in which the patient journey is thoroughly scrutinised for targeted improvements.

Introduction

For the 2021–2022 financial year, the projected cost of clinical negligence claims in the National Health Service (NHS) was £2.4 billion.¹ In this period, 15 078 claims were received, an increase of 12.9 per cent from 2020 to 2021.¹ In England, claims are resolved on a fault-based compensation basis,² where claims for adult patients must be brought within three years of the incident, apart from a small minority in which exceptional conditions are met. The level of compensation is proportional to the severity of harm.³ This is particularly relevant in thyroid surgery, where the potential for serious and life-threatening complications is recognised. Advances in diagnostic capability and an increased utilisation of medical imaging has led to a significant increase in thyroid cancer diagnosis,³ and the number of thyroid operations performed has increased over the last two decades, although it has plateaued over the last five years.⁴

The British Association of Endocrine and Thyroid Surgeons guides surgical practice by developing guidelines for endocrine surgery and supporting patient care. The use of intra-operative nerve monitoring during thyroid surgery by example has increased over the last 10 years,⁴ with 65 per cent of thyroidectomies making use of intra-operative nerve monitoring in 2020 in the UK,⁴ and this has translated to improved patient outcomes.⁵

The British Association of Endocrine and Thyroid Surgeons established a national endocrine registry to audit surgical outcomes participation, which became compulsory in England in July 2013.⁶ Participation and entry of data into the UK Registry of Endocrine and Thyroid Surgery is mandatory for British Association of Endocrine and Thyroid Surgeons membership, permitting quality outcomes audit on a national scale. Engagement and compliance with data entry has improved over time, now capturing approximately 50 per cent of thyroidectomy data in the UK.

An increasing participation and focus on patient safety may translate to a reduction in future negligence claims. This study aimed to review clinical negligence claims in thyroid surgery in England, to identify potential opportunities for learning in order to improve patient safety and decrease the cost of future litigation claims.

Materials and methods

Data were requested from NHS Resolution for claims made in a five-year period (1 April 2015 to 1 April 2020). The search terms used to obtain relevant claims were: 'thyroid',

‘thyroidectomy’ or ‘hemi-thyroidectomy’. The included claims were reviewed by three authors to achieve consensus.

Data included: the claim status (open or closed), incident details, patient age, cause code, alleged injury resulting from the claim, costs claimed (based on damages, defence costs and claimant costs). Dates of the incident and date of notification to NHS Resolution were also provided. Given the multi-factorial nature of the claims, more than one injury and/or cause code was often assigned to each claim. Thematic analysis of incident details was undertaken by three of the authors (JAJ, TR and AN) in order to reclassify claims into operative and non-operative causes.

For closed claims, costs were based on actual costs paid by NHS Resolution. Where claims were open, costs were estimated based on those paid out already for the claim in addition to the actuary calculations of outstanding costs.

In order to obtain data on the proportion of thyroid surgical procedures performed by a specialty, data were requested from Hospital Episode Statistics. Day-case or elective in-patient adult patients were included, where the codes for thyroid surgery (Office of Population Censuses and Surveys Classification of Interventions and Procedures codes B081, B083 and B084) were used anywhere in the procedural record.

Results

Hospital Episode Statistics data (Table 1)⁷ demonstrate that, proportionately, ENT surgeons perform the majority of thyroid operations in England, which is important for contextualising claim numbers relating to those specialties that performed the procedures.

There were 91 claims notified to NHS Resolution that were categorised as claims related to thyroid surgery. On review of the ‘incident information’ by three of the authors (JAJ, TR and AN), 60 claims were confirmed to be related to thyroid surgery, and all involved adults ranging from 18 to 76 years of age at the time of the incident (Figure 1). Forty-nine claims (82 per cent) were made by female patients with an average age of 44 years, and 11 (18 per cent) were made by male patients with an average age of 48 years. This matches the demographics seen in thyroid surgery with women outnumbering men in a 4 to 1 ratio, and with the majority of operations occurring in the 41–50 years age group.⁴

Of the 60 claims, 30 cases were attributed to otolaryngology, 8 to general surgery, 8 to endocrinology, 6 to histopathology, 4 to radiology, 2 to oncology, and 2 to an ‘other’

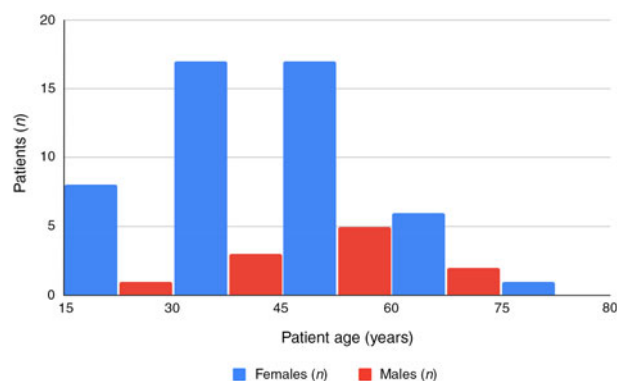


Figure 1. Histogram of participants by age and sex.

surgical specialty not specified further in the claim information (Table 2). This should be interpreted in the context of the total volume of thyroid procedures performed by each surgical specialty (Table 1). The total cost of claims during this period was £6 054 392, with an average cost of £100 907. Of the 60 claims reviewed, 38 (63.3 per cent) were closed at the end of the five-year period.

In the closed claims group ($n = 38$), damages or claimant legal costs were paid in 27 cases, with an average total claim cost of £68 816 in these cases (Figure 2), with average damages paid of £36 349. In the 24 of these claims where legal defence costs were paid, the average legal defence cost paid was £6109, and in the 24 claims in which claimant costs were paid, the average claimant cost paid was £30 416. Table 3 shows the costs related to specific injuries. Tables 4 and 5 show the cause codes and injury codes used for claims relating to operative and non-operative patient management, respectively.

Claims relating to diagnostics

The most common claim category was ‘diagnostic problems’ ($n = 19$), with the most frequent claim being diagnostic delay. The average cost for a claim relating to diagnostic problems was £61 006.29. The highest claim cost was £260 583, attributed to radiology for an alleged delay in the diagnosis of a malignant tumour of the thyroid.

Claims relating to medical management

Claims categorised as ‘metabolic disturbance’ all related to the failure to recognise or appropriately manage post-operative

Table 1. Numbers of thyroid operations in the UK*

Thyroid operation by specialty	Numbers of thyroid operations by year						
	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20
Thyroidectomy							
– ENT	1873	1970	1929	2128	2056	2168	2152
– General surgery	1989	1786	1677	1600	1520	1556	1343
– Oral or maxillofacial surgery	61	111	117	83	88	71	54
Lobectomy							
– ENT	4171	4370	4037	5070	4978	4933	4866
– General surgery	2319	2109	1714	2091	1978	2010	1848
– Oral or maxillofacial surgery	117	137	112	155	155	122	106

*Based on Hospital Episode Statistics data 2013–2020

Table 2. Costs of litigation claims related to thyroid surgery

Parameter	Cases (n)	Cases (%)	Cost (£)	% of total cost	Mean cost per case (£)
Total claims	60	100	6 054 392	100	100 907
Open vs closed claims					
– Open	22	37	4 173 430	69	189 701
– Closed	38	63	1 880 962	31	49 499
Subspecialty					
– ENT	30	50	3 726 002	62	124 200
– General surgery	8	13	451 634	7	56 454
– Endocrinology	8	13	267 908	5	33 488
– Histopathology	6	10	597 205	10	99 534
– Radiology	4	7	392 323	6	98 081
– Oncology	2	3	170 000	3	85 000
– Other	2	3	449 321	7	224 660

hypocalcaemia. The highest claim was £23 872 for a failure to monitor calcium levels post-thyroidectomy.

Claims relating to operative management

The highest total paid for a closed case was £352 857.30, relating to severe anoxic brain injury from sustained hypoxia following a post-operative complication. There was no information regarding the complication leading to this outcome. This case was categorised into the subspecialty ‘surgical – other’, so subspecialty is not attributable. The one other claim made for anoxic brain injury was related to post-operative airway obstruction secondary to post-operative oedema.

Analysis of claim descriptions identified eight claims related to nerve injury. Five specifically related to recurrent laryngeal nerve (RLN) injury, carrying the greatest total claim cost with an average of £117 913. One claim relating

to a superior laryngeal nerve injury affecting the patient’s ability to speak had total costs of £1560. Two further claims described vocal fold (‘vocal cord’) injury. Although details of the injury or nerve involvement were not provided, the cause codes used imply nerve injury. All claims that related to nerve injury included the cause codes ‘intra-operative problems’, ‘failure to warn – informed consent’ and ‘inadequate monitoring intra-operatively’.

Three claims were categorised as ‘failure of procedure’. One claim related to a thyroidectomy for Graves’ disease and two related to remnant thyroid tissue following total thyroidectomy for unclear indications.

Claims relating to consent

Four claims included a cause code relating to failure of adequate consent. Of these claims, damages were awarded in

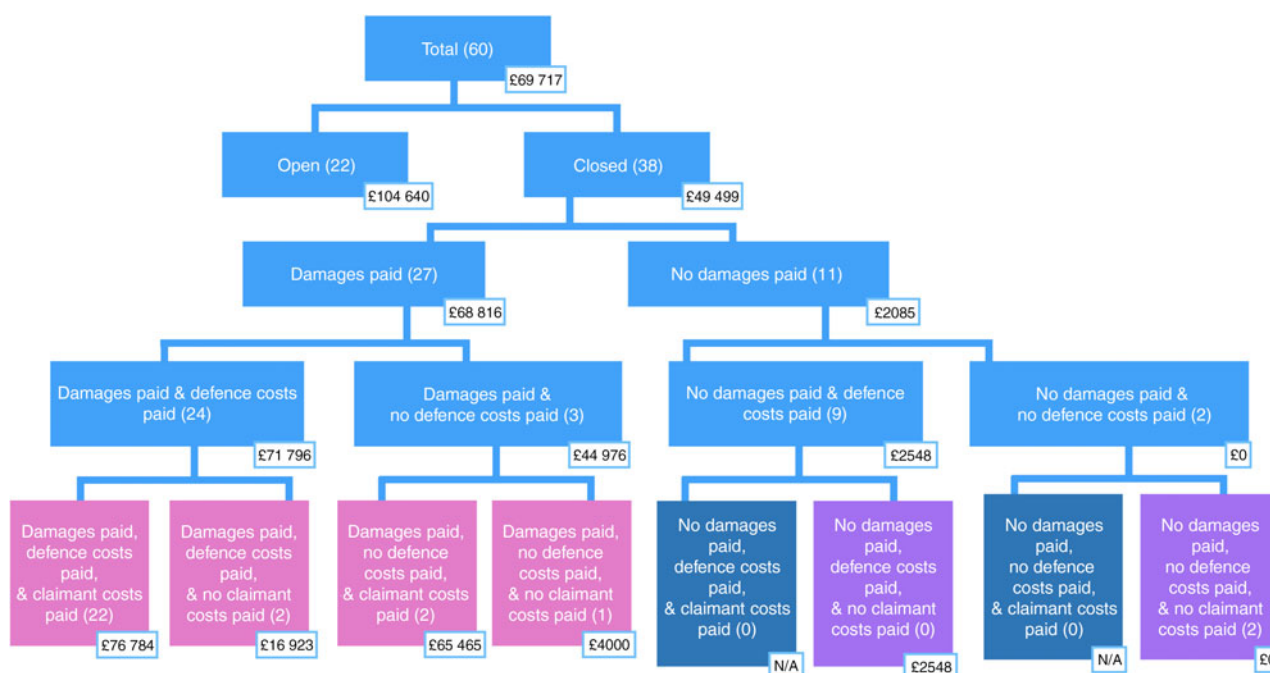


Figure 2. Thyroid clinical negligence claims. Boxes contain number of claims in parentheses, and the average claim cost in the associated white box. Pink boxes are claims regarded as being resolved in favour of the claimant (defined as where either damages or claimant costs were paid). Purple boxes are claims regarded as successfully defended (defined as where no damages or claimant costs were paid). Dark blue boxes indicate that no claims fulfil the criteria within the box.

Table 3. Costs related to specific injuries*

Parameter	Claims (n)	Total cost (£)	Mean total paid (£)
Operative injury			
– Airway obstruction	1	1 335 881	1 335 881
– Anoxic brain injury	2	1 688 738	844 369
– RLN injury	5	589 565	117 913
– Failure of procedure	3	268 290	89 397
– Non-specific nerve injury	2	65 050	32 525
– Post-thyroidectomy bleed	3	89 094	29 698
– Additional wound	3	74 154	24 718
– Death	3	60 222	20 074
– Scar	1	12 044	12 044
– Wrong-site surgery	2	20 750	10 375
– Retained foreign body	2	14 320	7160
– Stroke	1	5847	5847
– Superior laryngeal nerve injury	1	1560	1560
– Vocal fold damage	2	2585	1293
– Dental damage	1	0	0
Non-operative injury			
– Diagnostic problems	19	1 159 114	61 006
– Metabolic disturbance	4	31 996	7999
– Unnecessary surgery	3	36 987	12 329
– Waiting times	2	45 345	22 673
– Failed removal of sutures	1	4000	4000
– Unclear	2	54 668	27 334

*Categorised based on information in claim description, with cause and injury codes used for each claim type. Displayed in order of descending cost. Note: one case has been counted for both post-thyroidectomy bleed and death; one case has been counted for both airway obstruction and anoxic brain injury; and one case has been counted for both diagnostic problems and unnecessary surgery. RLN = recurrent laryngeal nerve

all four cases, with the average total paid at £164 836.31. The highest total paid for these claims was £352 857.30, relating to the severe anoxic brain injury case mentioned above.

Discussion

This study highlights the range of litigation claims in thyroid surgery, from diagnosis to post-operative management. Litigation trends associated with thyroid surgery in the USA indicate that the most common claim was for vocal fold paralysis and the need for tracheostomy, with issues surrounding informed consent accounting for 30 per cent of claims.⁸ Adjusting our data to surgical complications, we show similar results, where the most common injury cited was nerve injury ($n = 8$), for which two claims (25 per cent) included cause codes for 'failure to warn – informed consent'. Our data concur with the most recent review of 161 cases in thyroid surgery in England by Dent and Bagnall,⁹ who presented nerve injury as the most common surgical complication.

Consent

McIntyre and Tolley¹⁰ investigated the consenting practice of 193 thyroid surgeons, revealing significant variation. Of the

surgeons, 93.8 per cent included RLN injury and 67.9 per cent included external laryngeal nerve injury in the consent process, although most patients expressed an opinion that they would like to be informed of all potential nerve injuries.¹⁰

Of the 83 cause codes used in the surgical litigation claims identified, 4 related to 'failure to warn – informed consent'. As stated above, two of these related to nerve injury, and the others were failure of procedure and anoxic brain injury, but this is likely an underestimate of the impact of consent. Dissatisfaction with surgery also has a relationship with informed consent, and previous studies have concluded that the rise in dissatisfaction in surgery could be mitigated by improving consenting practice.¹¹ Indeed, dissatisfaction can occur as the expected outcomes from a procedure are not shared by the surgeon and the patient.

All treatment options including the option of no treatment, along with common and significant complications of surgery, should be included in the consenting process. Responsibility lies with the surgeon, and this should be viewed as a process of patient education, including any details of the surgery that are material to the patient, as reflected by the Montgomery ruling. There have been attempts to supplement verbal consent with procedure-specific handouts, but this has not been shown to improve risk recall or anxiety,¹² hence the doctor-patient relationship remains vital in ensuring informed consent. It is also imperative that clear records are kept of all the information shared with the patient – both for their reference and to aid any future investigations into the consent process.

Intra-operative nerve monitoring

Intra-operative nerve monitoring is increasingly adopted in thyroid surgery as more is understood about its relationship with post-operative outcomes and safety applications, such as abandoning a total thyroidectomy if there is loss of signal (i.e. total loss of electromyography (EMG) signal, or in some cases a significant drop in EMG amplitude, each signifying potential nerve injury) after dissection of the first side.¹³

Ho *et al.*¹⁴ compared usage patterns in ENT versus general surgery in the USA. They found that ENT surgeons used intra-operative nerve monitoring much more (80 per cent *vs* 48 per cent), and while ENT surgeons used intra-operative nerve monitoring mostly for continuous monitoring and medico-legal purposes, general surgeons used the technique more for locating the RLN. As surgical volume increased, so did the use of intra-operative nerve monitoring in both specialties. Of note, reasons for not using intra-operative nerve monitoring included additional cost, which may not be applicable to UK patients. Other reasons included lack of training, false positive findings and lack of availability, although this study was undertaken in 2013 and these factors may have changed.

The British Association of Endocrine and Thyroid Surgeons recommends the use of pre- and post-operative laryngoscopy,¹⁵ but does not provide guidance on the use of intra-operative nerve monitoring. Many believe there is little evidence-based benefit for routine intra-operative nerve monitoring,¹³ but a recent analysis of UK Registry of Endocrine and Thyroid Surgery data showed a reduction in the risk of overall and persistent RLN injury,⁵ and supports its routine use.

Using intra-operative nerve monitoring may reduce litigation claims by reducing nerve injury and its associated negative outcomes, from a change in voice quality to nerve palsy, but this does not negate the requirement to consent for nerve

Table 4. Cause codes and injury codes used for claims relating to operative patient management

Parameter	Cause codes	Injury codes
Airway obstruction (1)	Fail/delay treatment (1)	Brain damage (1) Multiple disabilities (1)
Anoxic brain injury (2)	Fail/delay treatment (2) Failure to warn – informed consent (1)	Brain damage (2) Fatality (1) Multiple disabilities (1)
Recurrent laryngeal nerve injury (5)	Intra-operative problems (2) Fail to warn – informed consent (1) Fail/delay treatment (1) Fail to recognise complication of (1) Operator error (1) Inadequate monitoring intra-operatively (1)	Nerve damage (5) Unnecessary pain (1) Vocal cord damage (1)
Failure of procedure (3)	Inappropriate treatment (1) Fail to follow-up arrangements (1) Fail to recognise complication of (1) Lack of pre-operative evaluation (1) Intra-operative problems (1) Fail to warn – informed consent (1)	Scarring (1) Thyroid condition (2) Psychiatric/psychological damage (1)
Non-specific nerve injury (2)	Fail to warn – informed consent (1) Lack of pre-operative evaluation (1) Intra-operative problems (1)	Nerve damage (2) Vocal cord damage (1)
Post-thyroidectomy bleed (3)	Fail/delay treatment (1) Fail to recognise complication of (1) Failure/delay diagnosis (1)	Unnecessary pain (1) Renal damage/failure (1) Fatality (1)
Additional wound (3)	Operator error (2) Intra-operative problems (1)	Cosmetic disfigurement (1) Scarring (1) Vocal cord damage (1)
Death (3)	Fail to recognise complication of (2) Lack of pre-operative evaluation (1) Operator error (1) Bacterial infection (1)	Fatality (3) Unnecessary pain (1)
Scar (1)	Intra-operative problems (1)	Cosmetic disfigurement (1)
Wrong-site surgery (2)	Wrong-site surgery (2)	Unnecessary pain (1) Additional/unnecessary operation(s) (2) Thyroid condition (1)
Retained foreign body (2)	Foreign body left in situ (2) Operator error (1)	Unnecessary pain (2) Additional/unnecessary operation(s) (1)
Stroke (1)	Intra-operative problems (1)	Fatality (1)
Superior laryngeal nerve injury (1)	Intra-operative problems (1)	Additional/unnecessary operation(s) (1)
Vocal cord damage (2)	Intra-operative problems (1) Inadequate monitoring intra-operatively (1)	Vocal cord damage (2)
Dental damage (1)	Intra-operative problems (1)	Dental damage (1)

In claims where more than one cause code or injury code was used, all were included. Data in parentheses indicate numbers of claims.

injury. In fact, regarding intra-operative nerve monitoring, the International Neural Monitoring Study Group has produced a consensus statement on consenting patients for the use of intra-operative nerve monitoring, including both its strengths and limitations.¹⁶ Educating patients about intra-operative nerve monitoring may reduce litigation claims, by highlighting its flaws such as false positive rates, and its impact on disease management by opting for a staged thyroidectomy if there is loss of signal after dissection of the first side during total thyroidectomy.

The International Neural Monitoring Study Group also makes a case for monitoring the external branch of the superior laryngeal nerve,¹⁷ as this nerve takes a course underneath the fascia of the inferior constrictor in 20 per cent of patients, meaning it cannot be directly visualised. Injury can lead to altered fundamental frequency of the voice, deterioration in voice performance in producing high frequency sounds and reduced vocal projection. Stimulating the nerve and observing cricothyroid twitch enables identification in all patients, which

is recommended to aid voice preservation after thyroid surgery.

Wrong-site surgery

Wrong-site surgery prevention strategies are commonplace, yet there were two claims made for this in our dataset for hemithyroidectomy. One occurred because the incorrect side was labelled after fine-needle aspiration, and the other was because of an error in listing. Both errors resulted in excision of the incorrect thyroid lobe.

A study investigating the frequency of listing errors in one hospital compared to the frequency of wrong-site surgery found that while no wrong-site surgical procedures occurred over a two-year period, 86 listing errors were made.¹⁸ This highlights the key contribution of system error in wrong-site surgery and the need for multiple checks along the whole pathway. A broad approach in risk-reduction strategies beyond the operating theatre is therefore required.

Table 5. Cause codes and injury codes used for claims relating to non-operative patient management

Parameter	Cause codes	Injury codes
Diagnostic problems (19)	Failure/delay diagnosis (9) Fail/delay treatment (5) Wrong diagnosis (3) Fail to act on abnormal test result (2) Problems with medical records (1) Failure to interpret X-ray (1) Fail to interpret USS (1) Lack of pre-operative evaluation (1) Performance of operation not indicated (1) Inappropriate treatment (1)	Cancer (6) Unnecessary pain (5) Additional/unnecessary operation(s) (3) Thyroid condition (3) Advanced stage cancer (3) Psychiatric/psychological damage (2) Reduced life expectancy (1) Fatality (1) Scarring (1) Other (1)
Metabolic disturbance (4)	Fail/delay treatment (2) Failure/delay diagnosis (1) Intra-operative problems (1) Inappropriate discharge (1)	Unnecessary pain (3) Psychiatric/psychological damage (2) Thyroid condition (1)
Unnecessary surgery (3)	Wrong diagnosis (1) Inappropriate treatment (1) Lack of pre-operative evaluation (1) Performance of operation not indicated (1) Failure to perform tests (1)	Additional/unnecessary operation(s) (3) Scarring (1) Unnecessary pain (2) Advanced stage cancer (1)
Waiting times (2)	Delay in performing operation (2)	Unnecessary pain (1) Fatality (1)
Failed removal of sutures (1)	Inappropriate treatment (1)	Unnecessary pain (1) Additional/unnecessary operation(s) (1) Scarring (1)
Unclear (2)	Operator error (2) Inadequate monitoring intra-operatively (1)	Scarring (2) Unnecessary pain (1)

In claims where more than one cause code or injury code was used, all were included. Data in parentheses indicate numbers of claims. USS = ultrasound scan

Post-operative complications

Post-thyroidectomy bleeding is a life-threatening complication, with an incidence of 0.45–4.2 per cent.¹⁹ Our dataset contains three cases of bleeding, with all claims citing a failure or delay in the recognition, diagnosis or management of this complication, with one fatality. Consensus guidelines have been produced to improve the awareness of teams caring for thyroidectomy patients post-operatively.¹⁹ All team members should be aware of and specifically trained in these guidelines, to allow for the early recognition and successful management of this complication.

Post-operative hypocalcaemia is a well-recognised complication occurring in 7.3–8.5 per cent of cases.⁴ It can have severe consequences that are avoidable if all team members involved in the care of thyroidectomy patients are aware of local guidelines and protocols in monitoring and managing post-operative calcium levels. The British Association of Endocrine and Thyroid Surgeons has produced guidelines for developing local protocols, depending on local availability of different calcium preparations.¹⁵

Surgeon volume

From our data, we are unable to extract information about surgical volumes and link this to litigation claim volume, but the association between surgical volumes and patient outcomes is well-evidenced.^{20–23} This may have an impact on clinical negligence claims via fewer operator errors, but this extrapolation is not evidenced in the literature and further work would be required to look into this. Although there is some discrepancy in the literature between what minimum threshold of surgical volume is required to improve patient outcomes, the British Association of Endocrine and Thyroid Surgeons suggests a minimum of 20 thyroid operations per year. This may be

important if surgical volume is questioned in a given claim, particularly if a surgeon has an annual volume of less than 20 cases.

Documentation

In light of a lack of granularity in our dataset, we cannot provide evidence that litigation claims were documentation-related. However, it is recognised that poor documentation makes litigation investigation more difficult and can prevent the defence of potentially good clinical practice.²⁴ Clear documentation of patient management, including decisions to treat and conversations with patients, is expected of all surgeons. Procedure notes should contain relevant information on the people involved, the indications for surgery, intra-operative findings, medications given, complications and post-operative instructions. Claims can be difficult to defend if clinical documentation is incomplete or lacking essential detail. In response to this, the Getting It Right First Time programme, the Royal College of Surgeons of England, and the British Association of Endocrine and Thyroid Surgeons have produced a best practice guide to define the recommended documentation for thyroidectomy.²⁴

In thyroid surgery, it is also recommended that intra-operative nerve monitoring data for RLN monitoring is documented. This does not represent a legal threshold or an absolute requirement, but again is suggested as one way of evidencing good clinical practice in litigation claims. There are a number of outputs from intra-operative nerve monitoring, but from a medicolegal perspective, the International Neural Monitoring Study Group (as one example) recommends documenting the muscle action potential at the beginning (V1; R1) and end (V2; R2) of the resection, for each side. Additionally, the International Neural Monitoring Study Group recommends that documentation should, at a

minimum, include V2 stimulation after thyroidectomy is completed on the first side, which indicates that thyroidectomy can safely proceed on the contralateral side. The Getting It Right First Time documentation guidance recommends that the use of intra-operative nerve monitoring be documented with a focus on end-of-procedure stimulation, acknowledging that the documentation will vary depending on what is done in the procedure. For example, one may document the identification, preservation and end-of-procedure stimulation for the external branch of the superior laryngeal nerve and RLN on each side.²⁴

Limitations

The detail on claims available in the dataset from NHS Resolution is limited, as it is designed as a claims handling system and not a registry nor a method for clinical education. The summative details are often based on the initial letter of claim, and although the costs are updated through the lifespan of a claim, we cannot be certain that the clinical details or cause of the claim are updated with the same degree of accuracy. Within these constraints, we have presented broad themes to guide improvement, but future work would benefit from including more granular claim detail during data collection, enabling more directly evidenced conclusions. Finally, open claims may be over or underestimated in their total cost, as the valuation will change as the claims mature.

Conclusion

Litigation in thyroid surgery reflects the complexity in disease management from diagnosis to post-operative care. There is potential for error in all stages of the patient pathway, and meticulous care is required to ensure that the risk to patients is minimised. Many of the claims outlined in this article relate to aspects of patient care understood to be issues, specifically: expedient treatment, collaborative and informed consent, patient education, up-to-date practice utilising the latest national guidance, and audit and monitoring of practice. It is clear that patients must undergo a thorough, ongoing and collaborative consenting process, and there are well-established checklists, guidelines and protocols for minimising peri-operative and intra-operative errors. Utilisation of these, in conjunction with national audit, and collaboration with UK Registry of Endocrine and Thyroid Surgery, the British Association of Endocrine and Thyroid Surgeons and Getting It Right First Time, is likely to reduce litigation claims as we move into a landscape in which every aspect of the patient journey is scrutinised for targeted improvement.

Competing interests. None declared

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