

# A more accurate tool for documenting functional endoscopic sinus surgery

## Key Points

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1. Functional endoscopic sinus surgery typically encompasses multiple components and can vary considerably in its complexity based on the patients symptoms, clinical imaging and the surgeon's experience.
2. Allied procedures such as septoplasty, turbinate surgery and polypectomy are frequently performed.
3. The OPSC Classification of Interventions and Procedures (OPSC-4) for coding procedures is complex with over 30 codes pertaining to FESS. Accurate coding of the operation note is crucial in determining the correct remuneration for each procedure performed.
4. This novel documentation tool includes allows simple and accurate recording of the complexity of FESS, with direct links to relevant OPSC-4 codes, allowing precise coding and remuneration of each procedure.
5. Accurate coding of FESS resulted in a potential increase in revenue of almost £40,000 for our Department.

## Abstract

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**Background:** FESS encompasses numerous component procedures including antrostomy, ethmoidectomy, sphenoidotomy and frontal sinusotomy. The extent of FESS procedure will vary between patients depending on indications, imaging and surgical experience. Each procedure is remunerated according to procedural components with each component assigned an OPSC-4 cost code. In NHS

hospitals, this relies on clinical coders' interpretation from the operation note, and may potentially be subject to incorrect coding and remuneration.

**Background:** We have devised a FESS documentation tool which includes a tick box system for each component and allied procedures performed, together with relevant OPSC-4 codes. The aim of this novel FESS operation note is to improve accuracy of coding for procedures, avoid misinterpretations and ensure accurate remuneration for FESS procedures.

**Design:** Retrospective quality improvement study.

**Methods:** The tool was implemented in our hospital in April 2019. Codes and costs applied to each patient undergoing FESS for a 6-month period between April to October 2019 were compared for all cases performed during the same 6 month period in 2018. Data review of coding information was performed between the two time periods including T-test analysis to calculate for statistical significance.

**Results:** 66 patients underwent FESS in 2018 compared to 70 patients in 2019, during the equivalent 6 month period. The tool was not used in two cases in the 2019 cohort. In 2018, the average cost applied to each FESS case was £1,676, compared to £1,953 per patient in the 6 months after the tool was implemented. This resulted in an average uplift of £277 in revenue per patient where the tool was used ( $p=0.003$ ), due to more accurate capture and coding of FESS component parts. On average, approximately 140 patients undergo FESS per year in our department; using the newly devised FESS documentation tool, we can estimate a potential increase in revenue of £38,780 per annum for FESS procedures alone.

**Conclusion:** Our novel documentation tool has improved the clarity of recording endoscopic sinus surgery allowing more accurate interpretation and application of OPSC-4 coding. It also aids in understanding complex composite procedures and can be extended to other surgical specialties.

## **Introduction**

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Functional endoscopic sinus surgery (FESS) is a common minimally invasive surgical intervention for the management of the majority of sinonasal disorders, with both diagnostic and therapeutic benefits.

The extent of planned surgical dissection will vary between patients and is usually dependent on symptoms, the anatomical site and severity of inflammatory disease on imaging, and surgical experience. A FESS procedure can encompass numerous component procedures, including middle meatal antrostomy, anterior and posterior ethmoidectomy, sphenoidotomy and frontal sinus surgery. Patients presenting with sino-nasal symptoms may often have multiple concurrent pathologies such as septal deviation, turbinate hypertrophy, nasal adhesions and polyposis. Therefore, whilst the procedure is often listed as “FESS” on a typical operating theatre booking system, the true nature of the operation can vary considerably in complexity between a limited endoscopic sinus procedure to a “full-house FESS” which includes many component procedures. Furthermore allied procedures such as septoplasty, turbinate surgery and polypectomy are frequently performed as part of the endoscopic sinus surgery, which in principle, should reflect in the coding for a particular procedure.

The OPSC Classification of Interventions and Procedures version 4 (OPSC-4)<sup>1</sup> is the procedural classification used by clinical coders within National Health Service (NHS) hospitals. OPSC-4 classifies operations, procedures and interventions performed during in-patient and day-case surgery stays as well as and out-patient consultations. Each OPSC-4 code is also assigned a cost code, and the Healthcare Trust is remunerated based on the combination of codes applied to each procedure or intervention performed.

Whilst functional endoscopic sinus surgery has a designated OPSC-4 code, the classification systems also has over 30 codes which describe various procedures pertaining to each paranasal sinus encountered during FESS. Typically, the documentation of an endoscopic sinus procedure is most commonly recorded using free text, whether handwritten or typed. The surgeon usually describes the findings encountered, the component procedures performed, endoscopic equipment used e.g. micro-debrider, endoscopic balloon, and any allied procedures such as septoplasty. The role of the clinical coder is to review each operation note

and extract information relating to relevant diagnoses and also the procedure/s involved. This reliance on the coders' analysis of free text operation notes can lead to potential errors of interpretation, which would result in the operation being incorrectly coded and therefore incorrectly remunerated.

We have devised a novel FESS operation note which includes a tick box system for each FESS component and allied procedure performed, alongside the relevant OPSC-4 code, to minimise such errors (figure 1). It also includes a free text section to allow surgeons to note specific details pertinent to the case. The aim of this specific FESS operation note is to improve accuracy of coding for component procedures and avoid potential misinterpretations, thereby ensuring that the department is correctly and accurately remunerated for FESS patients.

## **Methods**

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The FESS documentation tool was implemented in our hospital at the start of April 2019 and has continued to be used by all surgeons who undertake FESS. We compared the codes and costs applied to each patient undergoing FESS for a 6-month period between April to October 2019 and also performed similar analysis for all FESS cases performed during the same 6 month period in 2018, prior to the introduction of the FESS specific operation note. All data was collected retrospectively through the Trust clinical coding department which logs and codes every operation performed. Data review of coding information was performed between the two time periods including T-test analysis to calculate for any statistical significance.

## **Results**

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66 patients underwent FESS in 2018 compared to 70 patients in 2019, during the equivalent 6 month period. The tool was not used in two cases in the 2019 cohort.

In 2018, the average cost applied to each FESS case was £1,676, compared to £1,953 per patient in the 6 months after the tool was implemented. This resulted in an average increase of £277 in revenue per patient where the tool was used ( $p=0.003$ ). There was no change in the tariffs applied to OPSC-4 FESS codes or staff performing the procedure between the data collection periods.

On average, approximately 140 patients undergo endoscopic sinus surgery within our unit every year. By extrapolating our findings from the use of our novel FESS documentation tool, we estimate a potential increase in revenue of £38,780 per annum for FESS procedures alone.

## **Discussion**

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The traditional method of documenting endoscopic sinus procedures has been through free text descriptions, either handwritten or typed on word processors. Though most surgeons follow a standard format when writing operation notes i.e. indications, findings, procedures, post-operative plan, there can be a great level of variation in how the “procedure” section of the operation note is recorded. For example, whilst some may choose to document the component procedures in a list, others favour noting operative details in a more prose-like style. Also, many surgeons may use abbreviations to describe procedural or anatomical details e.g. MMA for middle meatal antrostomy, IT for inferior turbinate. Furthermore, where hand written operation notes are used, the matter of legibility can also impact on the ability of the reader to interpret the content.

The role of the clinical coder is to read through each individual operation note and be able to accurately extract the relevant information from these written accounts and apply the correct OPSC-4 codes to each procedure. Whilst an experienced coder with familiarity of each surgeon’s documentation characteristics may be able to accurately interpret operation notes for FESS, overall one can expect a certain

error rate in the extraction of information where relevant data may be misunderstood or simply missed.

Our novel documentation tool eliminates these potential sources of error, whilst also helping to convey the surgical variations of each FESS procedure in a fool-proof format. It lists 18 of the most common performed component and allied procedures involved in endoscopic sinus surgery, separated into each paranasal sinus, the septum, turbinate and other internal nasal procedures. Each component is listed next to its corresponding OPSC-4 code, and selecting of the adjacent 3 tick-boxes will indicate whether the particular procedure is performed along with laterality.

We believe the statistically significant rise in average costs applied to each FESS procedure following the introduction of our tool is due simpler yet more precise interpretation and more accurate coding of every procedure. This assumption has also been corroborated by our coding staff who have attest to far simpler interpretation of FESS operations. Our own experience of switching to a specific FESS operation note has also been smooth and widely accepted by all surgeons who perform the procedure. The tick-box format not only improves clarity but also saves time in documenting all component procedures performed, allowing more space to record the finer nuances of anatomy and dissection.

The benefit of an easy to read operation note which describes a complex and often varied operation such as endoscopic sinus surgery not only allows easy analysis by coders but also by any clinician who reviews the operation notes. This is of particular value in planning for revision surgery where the tool gives a clear indication to the anatomical findings and level of dissection undertaken in prior procedures.

## **Conclusion**

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Each Hospital in the NHS is remunerated for every procedure or intervention performed based on the codes applied. Complex operations such as FESS which involve numerous distinct components require multiple OPSC-4 codes to accurately represent the composite and varied nature of each case. Therefore the precise application of these complex codes is essential to ensure every department is correctly compensated for interventions undertaken.

Our novel documentation tool has improved the clarity of recording endoscopic sinus surgery allowing more accurate interpretation and application of OPSC-4 coding. As a result of this improvement, we have shown that coding based on traditional methods of recording FESS resulted in a considerable under-payment for these operations. The new tool not only allows accurate remuneration but is also a more efficient method of documenting a complex procedure whilst improves communication between healthcare staff who are required to review of operation notes for ongoing clinical care. The applications and benefits of such a system of documenting composite procedures are not limited to FESS, but can be extended to other operations within otolaryngology and other surgical specialties which potentially encompass multiple component procedures.

## References

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- 1 OPCS classification of interventions and procedures, version 4.9 (2019) *NHS Digital*.