National Institute for Health and Care Excellence

IP295 – Endoscopic thoracic sympathectomy for primary hyperhidrosis of the upper limb

Consultation Comments table

IPAC date: 12 December 2013

Com. no.	Consultee name and organisation	Sec. no.	Comments	Response Please respond to all comments
1	Consultee 1 Patient	**1.2**	Re 1.2 The word minority is subjective; a % should be stated in order for informed consent to be sought. Â It is not clear (to me) in the IP overview as to what percentage should be proffered! Â 14 questionnaires were returned and 'a minority' of patients reported regret! Â If it was only 1 person and that (7%) is 'consistent with the published evidence' it would be kinder to warn of a 1 in 14 chance of having regret, regret not akin to missing the bus but regret that one feels every day. Clear written information should be given weeks, preferably months, prior to the procedure.	Thank you for your comment. Section 5.4 of the guidance states that 'The case series of 453 patients reported that 2% (7/453) of patients were dissatisfied with the results at 5-year follow-up. These patients had severe compensatory hyperhidrosis and said that they regretted having ETS. The case series of 406 patients reported that 7% (n=17) of patients treated by conventional ETS were dissatisfied and regretted the operation at a mean follow-up of 17 years.'

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2	Consultee 5 Patient	**1.2**	At 1.2, I would like to stress that compensatory sweating is not the only side effect. Horner's Syndrome, Reynaud's Syndrome, loss of energy levels, anxiety/nervousness and a hightened 'fight or flight' relex can all be seen. If one looks to different websites around the world set up by those suffering the side effects of ETS - people who have never met, whose ethnicities / backgrounds are quite different, whose homes are thousands of miles apart, report common issues.	Thank you for your comment. The committee highlighted the issue of compensatory sweating as they recognized that this as been a particular concern. Section 5 of the guidance describes other adverse events reported in the literature.
3	Consultee 1 Patient	**1.3**	Re 1.3 Should read, ‘debilitating primary hyperhidrosis’ and ‘refractory to all other treatments’.	Thank you for your comment. Section 1.3 of the guidance will be changed.
4	Consultee 6 Patient	**1**	I am writing this to explain why the Ets procedure should be immediately banned as it is a destroyer of any patients life and the after effects are so severe the patient will never recover as the procedure is not reversible and any attempts to reverse have not worked. This operation must be banned immediately in the Uk.The surgeons have no idea how to handle the side effects and they lie saying the effects are small.they are huge.These surgeons and the clinics must be held fully accountable.	Thank you for your comment. The committee recognized that there is a risk of serious complications and that a minority of patients regret having had the procedure.

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5	Consultee 3 Patient	**1**	Disclosure re ETS is systematically inadequate. Pts are not informed re the consequences of denervation/nerve injury and disruption of the SNS. The procedure is invariably (including on your website here http://www.nice.org.uk/guidance/ip/295) misrepresented. Descriptions indicate that it will disrupt/affect the nerves that trigger sweating ONLY. Â This is not the case, and the available science should not be ignored. "Sympathectomy involves dissection of the main sympathetic trunk in the upper thoracic region thus interrupting neural messages that ordinarily would travel to many different organs, glands and muscles. It involves division of adrenergic, cholinergic and sensory fibers which elaborate adrenergic substances during the process of regulating visceral function. (Journal of Applied Sciences Research, 6(6): 659-664, 2010) Just one example: cardiac effect, Bradycardia, reduction in HRV and impairment of chronotropic response is a known fact. But patients are not informed/warned and surgeons seem to be ignorant of physiology.“...bradycardia as likely, and compensatory sweat- ing as obligatory.” (Clin Auton Res (2003) 13 [Suppl 1] : I/36 – I/39)	Thank you for your comment. Section 1.2 of the guidance states that ‘clinicians should ensure that patients understand the risks of the procedure’. The 2 references cited do not meet the inclusion criteria for the IP overview: the first is a cadaver study and the second is an Invited Lecture.

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6	Consultee 5 Patient	**1**	These recommendations are certainly a vast improvement over the position I encountered in London ten years ago. The surgeon who undertook my surgery did not even look at my hands before the operation. No discussion ever took place of alternative, non-surgical methods. These, non-surgical methods, have a good prospect of success. Iontopherisis is particularly promising. I am not sure that it is accurate to say that a minority of patients regret the surgery. I have only met one person who did not and dozens and dozens who did regret the surgery. 1.3, 1.4 and 1.5 are all excellent ideas and will immeasurably improve potential patients' understanding (and therefore the validity of their consent) prior to any ETS surgery.	Thank you for your comment. Section 5.4 of the guidance states that 'The case series of 453 patients reported that 2% (7/453) of patients were dissatisfied with the results at 5-year follow-up. These patients had severe compensatory hyperhidrosis and said that they regretted having ETS. The case series of 406 patients reported that 7% (n=17) of patients treated by conventional ETS were dissatisfied and regretted the operation at a mean follow-up of 17 years.'
7	Consultee 1 Patient	**1.5**	Re 1.5 How will further research be conducted? Â Will the frequency and severity of compensatory sweating be determined by testing on animals or humans?	Thank you for your comment. The encouragement to further research was intended for research in humans, and the guidance states that all complications should be reported in future research.
8	Consultee 4 Patient	**1**	Terrible side affects with this surgery, and no support from doctors or medical staff to help me	Thank you for your comment. The committee took note of the risk of serious complications in developing this guidance.

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9	Consultee 3 Patient	**2**	In light of the side-effects and injury caused by ETS, it should be highlighted in much stronger terms that alternative treatments are available and effective (unless it is an ETS surgeon assessing them - please read the literature and see for yourself). If patients would truly understand what the surgery does and how it LOOKS at the other end the so called CS, they would make sure that they truly give the non-surgical options a go. If they think that they are entitled to have the definitive cure, the surgery, they will not stick with the other treatments. http://www.ncbi.nlm.nih.gov/pubmed/10961751 Patients should be clearly warned that sympathectomy is not as minor a procedure as usually asserted Ann Thorac Surg 2001;71:1116-1119 After thoracoscopic sympathectomy for hyperhidrosis, very severe discomfort and hyperhidrosis in the neighboring non-sympathectomized regions occurred with alarming frequency and intensity. (p.879) Cousins and Bridenbaugh's Neural Blockade in Clinical Anesthesia and Pain Medicine by Michael J Cousins, Phillip O Bridenbaugh, Daniel B Carr, and Terese T Horlocker Wolters Kluwer Health Edition: 4 - 2008 If I had the chance I would list the literature.	Thank you for your comment. The web address cited refers to Fredman B et al, 2000 – included in appendix A of the overview. Gossot D et al, 2001 (Ann Thorac Surg 2001) is included in appendix A of the overview. Section 1.3 states that 'this procedure should only be considered in patients with severe and debilitating hyperhidrosis that has been refractory to other treatments'. First-line management of primary hyperhidrosis is described in Section 2.2.
10	Consultee 4 Patient	**2**	I found Botox worked before surgery but was told the local pct had pulled funding and I had to look for alternative treatment hence why I had surgery as I felts this was my only real option at that time in my life which I now regret	Thank you for your comment. See response to comment 4.

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11	Consultee 1 Patient	**2.1**	Re 2.1 It is extremely important to have absolute confirmation that the patient's hyperhidrosis is primary, not secondary. Â In my case my palmer hyperhidrosis was secondary; it had become severe due to chronic stress. Â Tragically I wasn't given any written information and I thought it was safe and appropriate to have an ETS. Â It was neither. NICE already have guidelines in place that recommend ETS should not be used to treat social anxiety disorder (see IP overview) as 'it may be harmful'. Â I would suggest that ETS is totally inappropriate for any stress disorder. Â It is the underlying condition that should be treated. After my ETS I saw a dermatologist in a neighbouring county. Â He explained that I would have been referred to a dermatologist in that catchment and that he would not have referred me on as he had seen too many people damaged by ETS. Â I think it is vitally important that referrals are not made directly from GP to Surgeon.	Thank you for your comment. This guidance is only for primary hyperhidrosis of the upper limb. Section 1.3 of the guidance will be changed.
12	Consultee 5 Patient	**2.1,2.2**	2.1 and 2.2 are very good and fair. I would also make reference to the possibility of 'clamping' rather than cauterising as a first step in a surgical solution. Whilst clamping may not be trouble free it would at least have the option of having the clamps removed with the prospect of full recovery, having seen whether the clamping improved the conditions leading to the surgery in the first place. It has to be better than an irreversible change in the body's nervous system functioning by way of 'chancing' the result.	Thank you for your comment. Section 3.2 states that 'surgical clips may be applied' However, it should be noted that the use of surgical clips is not with the intention to make the procedure reversible.

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13	Consultee 1 Patient	**2.2**	Re 2.2 Therapies for primary hyperhidrosis, and the associated technology, change rapidly and ALL of the most current first-line, non invasive therapies MUST be tried before surgery. Up to date information can be found here http://www.hyperhidrosisuk.org/	Thank you for your comment. Section 1.3 states that 'this procedure should only be considered in patients with severe and debilitating hyperhidrosis that has been refractory to other treatments'. First-line management of primary hyperhidrosis is described in Section 2.2.
14	Consultee 4 Patient	**3**	I suffered tingling and my cheats become sore and clothes become unbearable on the skin I told Amitriptyline to combat nerve pain.	Thank you for your comment.
15	Consultee 5 Patient	**3**	This reflects my experience, although no clamping option was offered to me. I would have taken it. It would have offered a prospect of reversal/removal with no long term consequences.	Thank you for your comment.

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16	Consultee 1 Patient	**3.2**	Re 3.2 ..'the chosen part of the chain is divided… Â The extent of division varies but usually involves the part of the sympathetic chain over the second or third ribs or both'My sympathetic chain was cut at the second rib to treat palmer hyperhidrosis. Â Following my ETS I suffer anhidrosis of my entire upper body. Â I am unable to sweat above the nipple line. Â Unwanted denervation prevents my blood vessels from constricting and dilating as they should in order regulate my temperature. Â In a letter to my GP in 2004 my Surgeon suggested that my vasculature may regain its tone, nine years on it hasn't. Â Why did he choose to divide the sympathetic chain at this level? Â Apparently this was his preferred method for treating palmer hyperhidrosis. At the Eighth International Symposium on Sympathetic Surgery (ISSS) On Thursday March 26th 2009 at 2:00pm to 2:20pm it appears there was a: Roundtable Discussion re the Optimal Level of Sympathectomy for Palmer and Axillary Hyperhidrosis. Six years after my ETS there was little consensus of opinion as to where to cut. It is my opinion that after more than two decades of ETS procedures in the UK the audit is so poor that surgeons must rely on conjecture!	Thank you for your comment.

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17	Consultee 1 Patient	**4**	Re 4 generally ETS causes (compensatory/reflex) hyperhidrosis in 92% of patients. Â In 33% of patients the hyperhidrosis is severe or incapacitating. Â (See 5.3) Â Given that, the primary hyperhidrosis was refractory to (hopefully all) other therapies. Â I can be witness to the fact that the new hyperhidrosis, which is now covered by clothing and unable to evaporate or be wiped off, will not respond to those same therapies. Thus the prospective patient should be properly warned (as part of the suggested written information) that he/she will sweat more and that no known therapy will be able to cure or in any way address this problem.	Thank you for your comment. Section 1.2 of the guidance states that 'Clinicians wishing to undertake ETS for primary hyperhidrosis of the upper limb should ensure that patients understand the risks of the procedure. In particular they should explain that there is a risk of serious complications, that hyperhidrosis elsewhere on the body is usual after the procedure, and that a minority of patients regret having had the procedure (especially because of subsequent hyperhidrosis elsewhere).'
18	Consultee 5 Patient	**4**	This does not bear out my experience or reflect that of most people I have met who have had the surgery. I know one person who was pleased with their result and dozens and dozens who were not. I would suggest contacting those surgeons involved in efforts to improve the lives of those suffering with the consequences of ETS who offer nerve grafting ([redacted] being a key player here). They will have information on thousands who suffer post-ETS in a manner which vastly outweighs what they (laughably) thought were problems prior to the ETS op. Cauterising T2 will stop palms sweating but beheading will also cure a headache. I'm sure we would agree that efficacy of the procedure without consideration of the devastating side effects would be unhelpful.	Thank you for your comment. The guidance presents both the efficacy and safety findings from the published literature.
19	Consultee 4 Patient	**4**	No comment	Thank you for your comment.

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20	Consultee 1 Patient	**4.1**	Re 4.1 Butulinum-toxin injections do suit some people and they surely must be offered ahead of surgery. Â An ETS is irreversible. Â Once part of the sympathetic chain has been destroyed it is gone forever. Â I and many other people spend time on ETS reversal forums hoping and praying for news of a successful reversal operation. Â Nerve grafts have been tried without success. Â Our best hope seems to be with stem cell research; however, reversal surgery will be expensive. Will NICE produce guidelines re reversal surgery where ETS surgery has left the patient disabled?	Thank you for your comment. Section 2.2 of the guidance includes botulinum-toxin A injection as a treatment option. If ETS reversal surgery were to be done in the UK, meeting the criteria for IP notification, the IP programme would welcome a such a notification.
21	Consultee 3 Patient	**4**	The summary is based on biased publications reported by the surgeons. That is not considered reliable nor is it considered evidence.	Thank you for your comment. For each procedure considered by the Interventional Procedures Advisory Committee, evidence and commentary about the efficacy and safety of a procedure are gathered from the following sources: • a rapid review of the published literature, based on an explicit search • information from Specialist Advisers in specialties associated with the procedure • knowledge of expert IPAC members. In addition, the NICE Public Involvement Programme seeks further information about the impact of the condition and the procedure on patients before it is considered by the Committee.

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22	Consultee 3 Patient	**5**	The summary is based on biased publications reported by the surgeons. That is not considered reliable nor is it considered evidence. Here is some you might have overlooked. “At an average 12Â years after surgery, 47% of patients were satisfied with the treatment results, 40% were disappointed.Â 53% complaining about a decent to moderate recurrence of hand sweating and compensatory and gustatory sweating were observed in 9 (60%) and 5 (33%) patients, respectively.”Â Interact CardioVasc Thorac Surg(2009)Â 8Â (1):Â 54-57.“Only 56% would recommend sympathectomy to others with hyperhydrosis” http://www.ncbi.nlm.nih.gov/pubmed/21539945 "return of sweating in the hands is common occurrence in patients followed up for sufficient length of time" Annals of the Royal College of Surgeons of England (1989) vol. 7.1	Thank you for your comment. Walles T et al. (2009) Long-term efficiency of endoscopic thoracic sympathicotomy: survey 10 years after surgery. Interactive Cardiovascular & Thoracic Surgery 8: 54-57 was identified in the literature search but was not included in the overview because it is a case series with fewer than 200 patients, which was the cut off for this procedure (n=15). The web address refers to the following citation: Currie AC et al. (2011) An analysis of the natural course of compensatory sweating following thoracoscopic sympathectomy. International Journal Of Surgery 9: 437-439. This was identified in the literature search but was not included in the overview because it is a case series with fewer than 200 patients, which was the cut off for this procedure (n=46). Law NW et al. (1989) Transthoracic sympathectomy for palmar hyperhidrosis in children under 16 years of age. Annals of the Royal College of Surgeons of England 71: 70-1 was not identified in the literature search but it does not meet the criteria for inclusion in the overview because it is a case series with fewer than 200 patients, which was the cut off for this procedure (n=18).

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23	Consultee 3 Patient	**5**	“The results of endoscopic sympathectomy deteriorate progressively from the immediate outcome”British Journal of Surgery ISSN 0007-1323 1999, vol. 86, no1, pp. 45-47 (12 ref.) “after ETS, important impairment of cardiopulmonary exercise function has been observed”Thorax. 1995 Oct;50(10):1097-100. "51% had decreased QL after ETS" Pediatr Surg Int. 2008 Mar;24(3):343-7.	Chiou TS et al. (1999) Intermediate-term results of endoscopic transaxillary T2 sympathectomy for primary palmar hyperhidrosis. British Journal of Surgery 86: 45-47 was identified in the literature search but was not included in the overview because it is a case series with fewer than 200 patients, which was the cut off for this procedure (n=91). Noppen M et al. (1995) Cardiopulmonary exercise testing following bilateral thoracoscopic sympathicolysis in patients with essential hyperhidrosis. Thorax 50: 1097-1100 was identified in the literature search but was not included in the overview because it is a case series with fewer than 200 patients, which was the cut off for this procedure (n=26). Steiner Z, Cohen Z, Kleiner O et al. (2008) Do children tolerate thoracoscopic sympathectomy better than adults? Pediatric Surgery International 24: 343-347 is included in appendix A of the overview.

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24	Consultee 5 Patient	**5**	During my surgery my ulna nerve in my wrist was crushed. My little finger on my right hand shook violently for 18 months and there was pain (in addition to the general pain in my hands following ETS) coming from the wrist and little finger for many years. Two weeks after my operation the tips of my fingers on the plam side of my hand became red and sore and super sensitive to heat. I was once burnt picking up a piece of paper coming off a printer. This settled down but at the same time as I lost the majority of my sensation in these finger tips - the micro nerve endings had effectively died. This was subsequently borne out by sensitivity tests at the National Neurological hospital. A loss in my sense of touch is just one thing which has taken place following ETS. Compensatory sweating, although horrendous, can often be managed (albeit with extremely large amounts of anti-coinergin medicines) but a general loss of energy is the most profound impact on my life. I have met many wonderful people through survivor / coping groups, who have had similar experiences with ETS. It is reassuring to know that we are not just foolish (a lot of the members of these groups are extremely educated).	Thank you for your comment.
25	Consultee 4 Patient	**5**	No comment	Thank you for your comment.

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26	Consultee 1 Patient	**5.3**	Re 5.3‘33% of patients reported compensatory hyperhidrosis that was either ‘severe’ or ‘incapacitating.’’. Â Prospective patients have a right to know that they have a 1 in 3 chance of this happening to them. Â It may develop immediately or years after surgery. Â Prospective patients should be told how this may impact on their life. Â In my experience it means this, the sweat from my hands, chest, face, and head now manifests instead from my anus, buttocks, groin, scrotum, abdomen, lower back and legs. Â My pants are damp 24/7 my skin gets chaffed and sore, infected with fungi, breaks down and bleeds, hydrocortisone cream adds to the soggy mess. Â In company I no longer stress about shaking hands, I stress about sweat staining their furniture, whether they will notice my wet crotch, whether there is faeces in my anal sweat and how to excuse myself in order to change my pants. Â If these notes get into print I urge surgeons to use them in their printed information for patients.	Thank you for your comment. Section 1.2 of the guidance states that ‘Clinicians wishing to undertake ETS for primary hyperhidrosis of the upper limb should ensure that patients understand the risks of the procedure. In particular they should explain that there is a risk of serious complications, that hyperhidrosis elsewhere on the body is usual after the procedure, and that a minority of patients regret having had the procedure (especially because of subsequent hyperhidrosis elsewhere).’
27	Consultee 2 Carer	**5.3**	re 5.3. Â I find it hard to comprehend some of these figures. Â How can it be that, despite 33% of patients reporting ‘severe’ or ‘incapacitating’ compensatory hyperhidrosis, that only 2% were dissatisfied with the results. Â It just doesn't make sense.	Thank you for your comment. The safety outcomes reported are those which are described in the available evidence.

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28	Consultee 1 Patient	**5.8**	Re 5.8 I would like to report:- Raynauds, anhidrosis above the nipple line, loss of vascular control, hot flushes and problems with regulating body temperature and being more susceptible to exertional heat stroke.	Thank you for your comment. Section 5.8 includes heatstroke and distal upper limb ischaemia in the list of other adverse events.
29	Consultee 2 Carer	**6**	What will it take before techniques for ETS are standardised to ensure an efficient outcome. Â It is too late for my husband, the damage has been done. Â It seems to me that there is a 'try it and see' attitude to ETS at present. Â This isn't good enough.	Thank you for your comment. Section 1.4 of the guidance will be changed.
30	Consultee 5 Patient	**6**	Sadly, I know people who have ended their lives following ETS. The sheer volume of side effects is almost totally unappreciated and unacknowledged by most doctors in the UK. It is a brutal surgery that deserves to be regarded as the 20th century equivalent of a labotomy, which in coming decades and centuries it no doubt will be. In the meantime I applaud the efforts NICE is making to at least save some people from making a terrible mistake by ensuring that they are in possession of at least some basic information on what is involved.	Thank you for your comment. The committee did consider the risk of serious complications and the regret expressed by a minority of patients.

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31	Consultee 3 Patient	**6**	Surprisingly, many patients experienced mild recurrent symptoms within the first year; this should always be discussed with patients preoperatively Ann Thorac Surg. 2012 Aug;94(2):401-5. No statistically significant association between the CS with age, family history, type of HH and extent of TS http://ejcts.oxfordjournals.org/content/34/3/514.full "These observations further emphasize our ignorance of the mechanisms responsible for primary hyperhidrosis and of the effect of sympathetic ablation on the function of the remaining sympathetic system. " Statement by the President of the International Society of Sympathetic Surgery, (ISSS). World J Surg (2011) 35:54–55 DOI 10.1007/s00268-010-0809-5 "Sympathectomy is a technique about which we have limited knowledge, applied to disorders about which we have little understanding." Associate Professor Robert Boas The Journal of Pain, Vol 1, No 4 (Winter), 2000: pp 258-260"The mechanisms of the syndrome and of the action of these drugs are uncertain." http://www.sciencedirect.com/science/article/pii/00029610749023 84 Most of the studies on ETS are by surgeons and are not scientifically sound or credible.hyperhidrosis-surgery.blogspot.com	Thank you for your comment. Ann Thorac Surg. 2012: 94(2):401-5 is a report on facial blushing, which has been considered in a separate piece of guidance. The web address refers to: Rodriguez PM, Freixinet JL, Hussein M et al. (2008) Side effects, complications and outcome of thoracoscopic sympathectomy for palmar and axillary hyperhidrosis in 406 patients. European Journal of Cardio-Thoracic Surgery 34: 514-519. This is included in appendix A of the overview. World J Surg (2011) 35:54–55 does not meet the criteria for inclusion in the overview because it is a commentary on lumbar sympathectomy. Boas RA (2000) The Journal of Pain; 1:258-260 does not meet the criteria for inclusion in the overview because it is a commentary. The web address refers to Raskin NH et al. (1974) American Journal of Surgery 1: 75–8, which does not meet the criteria for inclusion in the overview because it describes 56 patients treated by lumbar sympathectomy.

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32	Consultee 1 Patient	**6.1**	Re 6.1 Prospective patients should be told that there is still no consensus as to where the sympathetic chain should be cut in order to ensure the most effective and safest outcome. Â Surgeons should not suggest directly or implicitly that they can 'cut the nerves that make your hands sweat' but should explain that they will destroy parts of the sympathetic chain that they believe will have the best and safest outcome but other surgeons may use a different protocol. Â They should also explain that NICE recommends further research into patient selection and outcomes with particular attention to the frequency and severity of compensatory sweating (see 1.5). Â The prospective patient should be in no doubt that they are taking part in research.	Thank you for your comment. Section 6.1 of the guidance states that 'The Committee noted that techniques of endoscopic thoracic sympathectomy (ETS) vary in the way in which the sympathetic chain is dealt with and the precise extent of the sympathectomy for primary hyperhidrosis of the upper limb. These variations may affect the efficacy and safety outcomes of this procedure.' This will be included in the 'Information for the Public' that will be published at the same time as the final guidance.
33	Consultee 1 Patient	**6.2**	Re 6.2 Where the primary indication is axillary hyperhidrosis the prospective patient should be told that the NICE IP committee note that the outcome is somewhat less assured. Finally From my experience when a post ETS patient presents with debilitating side effects it can be painful for all parties. Â The surgeon should be prepared to advise and support the patient, not just walk away. Help and support can be found here: Â http://www.hyperhidrosisuk.org/	Thank you for your comment. The Committee comments will be included in the 'Information for the Public' that will be published at the same time as the final guidance.

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34	Consultee 3 Patient	**Note**	Conflict of interest - The majority of opinion you seem to relied on is based on statements and publications (self reporting) of the surgeons who offer the elective ETS procedure. They are usually thoracic, vascular, general, - or rarely -, neurosurgeons. While they might be competent in performing said technique, they are not equipped to and fully trained to consider the implications of this procedure on the Autonomic Nervous System, and the reported effects of this intervention/nerve injury often fall outside of their specialty. Also: self reporting, and claims of successes is rarely if ever considered to be 'evidence', and the many systematic reviews undertaken re this procedure have highlighted that there is a credibility issue re the published literature. Conflict of interest and observational bias is evident on the part of these surgeons, and it affects their publication, and they way they advertise and promote this procedure. To eliminate skewed results and advice, it would be beneficial to engage the expert opinion of those who are actually qualified to assess not just the proclamations of success (effectiveness) but also the subsequent side-effects and pathology due to the nerve injury/surgery.	Thank you for your comment. For each procedure considered by the Interventional Procedures Advisory Committee, evidence and commentary about the efficacy and safety of a procedure are gathered from the following sources: • a rapid review of the published literature, based on an explicit search • information from Specialist Advisers in specialties associated with the procedure • knowledge of expert IPAC members. In addition, the NICE Public Involvement Programme seeks further information about the impact of the condition and the procedure on patients before it is considered by the Committee.

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35	Consultee 3 Patient	**Note**	T.A. Ojimba and A.E.P.Cameron in their review/summary of this procedure titled DRAWBACKS OF ENDOSCOPIC THORACIC SYMPATHECTOMY highlight a substantial medicolegal activity surrounding ETS procedure. ("It is not surprising that significant medicolegal activity surrounds ETS. In the UK most operations are carried out by vascular surgeons. The Vascular Surgical Society of Great Britain and Ireland (VSSGBI) has audited medicolegal claims made during the period 1990 – 199930 . Of 424 claims identified, 12 followed ETS (W.B. Campbell, personal communication)". and later: "Interestingly, only one of these appeared in the VSSGBI audit, suggesting that the medicolegal issue may be even greater than is currently appreciated." British Journal of Surgery 2004; 91: 264–269 As not many surgeons are keen to publicise adverse outcomes, it is likely that results are skewed towards the positives. Consultation with the insurance industry would highlight the number of claims for this procedure, which would provide another important dimension to your inquiry. The fact	Thank you for your comment. Ojimba TA, Cameron AEP (2004) Drawbacks of endoscopic thoracic sympathectomy. British Journal of Surgery 91: 264–9 is included in table 2 of the overview and was discussed by the committee.

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36	Consultee 3 Patient	**Note**	and here is the evidence that surgeons are not on the side of moderation, but rather aggressively promote the surgery and pursue the patients by insisting the surgery should be a first line treatment, even though the alternatives are effective (this surgeon, Baumgartner undertook a ..trial of alternative treatments and declared them ineffective. There is no doubt that when facing the patient, he will pursue the same line of reasoning and impart his overconfidence in his own skill and the effectiveness and safety of his procedure to the patient). Please note, that this surgery is the main source of income for some of these surgeons. 1. Surgical Sympathectomy should be first line treatment according to 'Center for the Cure of Sweaty Palms™' surgeon Given the clear superiority of BTS (bilateral thoracoscopic sympathectomy) for severe palmoplantar hyperhidrosis, deliberately using medical treatments that are known with near certainty to be eneffective and at times considerably noxious simply as a requisite to surgery may not be in the best interest of such patients, nor is such an approach ultimately cost-effective. There is no evidence that surgical intervention should be considered a "last resort" for this form of hyperhidrosis. BTS can safely and confidently be recommended as first-line treatment for the typical, severe form of palmoplantar hyperhidrosis.	Thank you for your comment. Baumgartner FJ et al. (2009) Superiority of thoracoscopic sympathectomy over medical management for the palmoplantar subset of severe hyperhidrosis. Annals of Vascular Surgery 23: 1-7 was identified in the literature search but was not included in the overview because it is a case series with fewer than 200 patients, which was the cut off for this procedure.

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37	Consultee 3 Patient	**Note**	2. official statement by the ISSS - International Society of Sympathetic Surgery (funded to promote and advance the ETS surgery) "We feel that patients presenting with primary hyperhidrosis should receive the full spectrum of possible treatments, so we agree that the treatment algorithms suggested by Drs Walling and Swick are valid. However, bearing in mind the fact that appropriate surgery is the only means to permanently achieve anhidrosis (albeit with the complications and sequelae presented by the authors), we consider that some patients may wish to skip some of the less successful earlier stages." Treatment Options for Primary Hyperhidrosis De Campos, Jose Ribas M;; Hashmonai, Moshe;; Licht, Peter B;; Schick, Christoph H;; Bischof, Georg;; et al. American Journal of Clinical Dermatology 13.2 (Apr 2012): 139.	Thank you for your comment. The reference cited does not meet the criteria for inclusion in the overview because it is a report of an exchange between clinicians rather than reporting new evidence.
38	Consultee 3 Patient	**Note**	I have attached a document titled 'expert review in dermatology by thoracic surgeons.pdf' The document is a medscape document on treatment options authored by 3 surgeons! Thoracic surgeons. Since when are thoracic surgeons qualified and considered to be expert on the treatment that usually falls under the specialty of dermatology or neurology? And how can these surgeons declare no conflict of interest, when they have a clear interest in promoting their own procedure, and profit from performing it?	Thank you for your comment. The document cited is: Schieman C (2010) Hyperhidrosis: clinical presentation, evaluation and management. Expert Review in Dermatology 5: 31–44. This was not identified in the literature search but will not be added to the overview because it is a general review of hyperhidrosis.

Com. no.	Consultee name and organisation	Sec. no.	Comments	Response Please respond to all comments
39	Consultee 3 Patient	**Note**	There is a clear possibility and I believe I have provided sufficient evidence that the (financial) self-interest of the surgeons overrides their concerns for the well-being and health of the patients under their care. It is not quite clear why or how they can ignore the tremendous amount of publication on the variety of effects after ETS/denervation or nerve injury (and the many systematic reviews that tend to take out the enthusiasm from the publications and are left with the realisation that there is very little science, credibility or evidence to rely on in this case). So, it is your job to fully investigate this and prevent it from happening. It is your job to ensure that it is NOT THE SURGEONS - WITH THEIR INHERENT SELF-INTEREST IN THE PROCEDURE - THAT CONTROL THE CONTENT OF THE INFORMATION and THE INFORMED CONSENT PROCESS GIVEN TO PATIENTS, because that inevitably will lead to misrepresentation. Just because there is a consensus amongst surgeons on the results of the surgery, just because there are hundreds of enthusiastic pulications declaring never before ween success with this procedure, one has to look behind and look for scientific credibility and scientific feasibility. In this case myths, and some very clever and influental PR strategies took over science.	Thank you for your comment. For each procedure considered by the Interventional Procedures Advisory Committee, evidence and commentary about the efficacy and safety of a procedure are gathered from the following sources: • a rapid review of the published literature, based on an explicit search • information from Specialist Advisers in specialties associated with the procedure • knowledge of expert IPAC members. In addition, the NICE Public Involvement Programme seeks further information about the impact of the condition and the procedure on patients before it is considered by the Committee.

Com. no.	Consultee name and organisation	Sec. no.	Comments	Response Please respond to all comments
40	Consultee 3 Patient	**Note**	Dont' fall for the con-artistry, consult with people in the know, consult with neurologists and specialist who really understand the ANS and ask them to comment on this issue.After all, ETS is a neuro-surgery, performed by thoracic or vascular surgeons. Very rarely will you find a neuro-surgeon willing to perform the procedure - which might be a hint after all. Summary of the systematic reviews: T(2)-T(3) ganglionectomy significantly decreases pulse rate and systolic blood pressure, reduces myocardial oxygen demand, increases left ventricular ejection fraction and prolongs Q-T interval. A certain loss of lung volume and decrease of pulmonary diffusion capacity for CO result from sympathectomy. Histomorphological muscle changes and neuro-histochemical and biochemical effects have also been observed. Clin Auton Res. 2003 Dec;13 Suppl 1:I40-4. http://www.ncbi.nlm.nih.gov/pubmed/14673672	Thank you for your comment. Specialist advice was sought from members of the Vascular Society of Great Britain and Ireland and the Society for Cardiothoracic Surgery in Great Britain and Ireland, because the clinicians who perform the procedure are typically members of these societies. Hashmonai M et al. (2003) The pathophysiology of cervical and upper thoracic sympathetic surgery. Clinical Autonomic Research 13 Suppl-4 was identified in the literature search but was not included in the overview because other more recent or larger studies from the same author were included.

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41	Consultee 3 Patient	**Note**	Several reports also demonstrate significantly lower heart rate increases during exercise in subjects who have undergone bilateral ISS [9–12] compared to pre-surgical levels. In spite of this high occurrence, recent reviews on the usual collateral effects of thoracic sympathectomy still do not include these possible cardiac consequences [6]. Eur J Cardiothorac Surg 2001;20:1095-1100 http://www.sciencedirect.com/science/article/pii/S1010794001010028 The results of endoscopic sympathectomy deteriorate progressively from the immediate outcome British Journal of Surgery ISSN 0007-1323 1999, vol. 86, no1, pp. 45-47 (12 ref.)	Thank you for your comment. Abraham P et al. (2001) Infra-stellate upper thoracic sympathectomy results in a relative bradycardia during exercise, irrespective of the operated side. European Journal of Cardio-thoracic Surgery 20: 1095-1100 was identified in the literature search but was not included in the overview because it is a small study focusing on bradycardia, which is included elsewhere in the overview. The paper concludes that 'Patients should be informed of the exercise bradycardia resulting from ISS, although clinical tolerance seems excellent in endurance exercise.' Chiou TS et al. (1999) Intermediate-term results of endoscopic transaxillary T2 sympathectomy for primary palmar hyperhidrosis. British Journal of Surgery 86: 45-47 was identified in the literature search but was not included in the overview because it is a case series with fewer than 200 patients, which is the cut off for this procedure (n=91).

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42	Consultee 3 Patient	**Note**	Australian Review of ETS surgery, 2009 "A lack of high quality randomised trial evidence on ETS means that it is difficult to make a judgment on the safety and effectiveness of this technique. There is potentially a number of safety issues associated with this procedure. ASERNIP-s suggests that a full systematic review including all available comparative and case series information, together with clinical inpuut, should be undertaken to provide up-to-date and comprehensive assessment of the safety and effectiveness of ETS." (ASERNIP-s Report No. 71, August 2009) Australian Review of ETS surgery, 2001 The four case series were not critically appraised because they are prone to bias and have significant methodological problems. These studies represent level IV evidence according to the NHMRC criteria and one should not draw firm conclusions from their findings. To date, the benefits or side effects associated with endoscopic thoracic sympathectomy for treating facial blushing have not been properly evaluated and reported. Further research using a well-designed controlled trial is warranted to assess the efficacy of endoscopic thoracic sympathectomy for treating facial blushing. Centre for Clinical Effectiveness - Monash, 2001	Thank you for your comment. The ASERNIP-S report is summarised in the overview under ‘existing assessments of the procedure’. The Monash 2001 report is for the indication of facial blushing rather than hyperhidrosis.

Com. no.	Consultee name and organisation	Sec. no.	Comments	Response Please respond to all comments
43	Consultee 3 Patient	**Note**	Swedish Review, 1999, 2002 The findings by SBU Alert show that poor* evidence is available about ETS as regards side effects, risks, and short-term effects. There is no* scientific evidence demonstrating the long-term results of the method or its cost effectiveness in relation to other methods. (Swedish Council on Technology Assessment in Health Care (SBU), the Medical Products Agency, the National Board of Health and Welfare, and the Federation of Swedish County Councils. Published: 1999-08-30 Revised: 2002-09-30 Finnish Review, 2005 Conclusions: The evidence of the effectiveness of ETS is weak due to a lack of randomized trials.The intervention leads to severe immediate complications in some of the patients, and to persistent side-effects for many of the patients. UniversityofOuluand FinnishOfficeforHealthTechnologyAssessment FinnishOfficeforHealthTechnologyAssessment UniversityofHelsinki and FinnishOfficeforHealthTechnologyAssessment UniversityofCopenhagenand FinnishOfficeforHealthTechnologyAssessment	Thank you for your comment. The SBU Alert report is summarised in the overview under ‘existing assessments of the procedure’. Malmivaara A, Kuukasjarvi P, Autti-Ramo I, et al. (2007) Effectiveness and safety of endoscopic thoracic sympathectomy for excessive sweating and facial blushing: a systematic review. International Journal of Technology Assessment in Health Care 23: 54-62 is included in appendix A of the overview.

Com. no.	Consultee name and organisation	Sec. no.	Comments	Response Please respond to all comments
44	Consultee 3 Patient	**Note**	Cochrane Database Syst. Review, 2003 ”The practice of surgical and chemical sympathectomy is based on poor quality evidence, uncontrolled studies and personal experience.“ Cochrane Database Syst Rev. 2003;(2):CD002918. UK Review of ETS surgery, 2003 We did not identify any controlled trials or cohort studies. The evidence about effectiveness, based on three case series, was therefore very limited. The main weakness of these studies was their lack of a comparison group and their resulting inability to exclude a placebo response to surgery. In addition, the methods of assessing outcome were poorly described and not validated, and the range of outcomes assessed was limited. The studies provided very limited evidence that sympathectomy improves blushing. Side effects were common. London: Bazian Ltd (Editors), Wessex Institute for Health Research and Development, University of Southampton 2003: 11	Thank you for your comment. The Cochrane Review cited refers to sympathectomy for neuropathic pain, which is a different indication. The Bazian review cited refers to facial blushing, which is a different indication.

Com. no.	Consultee name and organisation	Sec. no.	Comments	Response Please respond to all comments
45	Consultee 3 Patient	**Note**	Wiley & Sons, Inc, news release, 2004 "Lifestyle" surgical procedure carries unrecognized risk of complications." Hoboken, NJ: John Wiley & Sons, Inc, British Journal of Surgery, Feb 5, 2004 "Sympathectomy is a technique about which we have limited knowledge, applied to disorders about which we have little understanding." Associate Professor Robert Boas, Faculty of Pain Medicine of the Australasian College of Anaesthetists and the Royal College of Anaesthetistshttp://www.pfizer.no/templates/Page____886.aspx "This is a field in which the unknown is still substantial and some of the known - controversial." M. Hashmonai, ISSS President at the 6th International Symposium on Sympathetic Surgery (ISSS) 4th -6th May 2005, Vienna Medical Academy, Austria "return of sweating in the hands is common occurrence in patients followed up for sufficient length of time" Annals of the Royal College of Surgeons of England (1989) vol. 7.1	Thank you for your comment. The news release refers to Ojimba TA, Cameron AEP (2004) Drawbacks of endoscopic thoracic sympathectomy. British Journal of Surgery 91: 264–9, which is included in table 2 of the overview. Law NW et al. (1989) Transthoracic sympathectomy for palmar hyperhidrosis in children under 16 years of age. Annals of the Royal College of Surgeons of England 71: 70-1 was not identified in the literature search but it does not meet the criteria for inclusion in the overview because it is a case series with fewer than 200 patients, which is the cut off for this procedure (n=18).

Com. no.	Consultee name and organisation	Sec. no.	Comments	Response Please respond to all comments
46	Consultee 3 Patient	**Note**	Recurrent hyperhidrosis is another potential side effect from hyperhidrosis surgery The Society of Thoracic Surgeons Expert Consensus for the Surgical Treatment of Hyperhidrosis -- Cerfolio et al. 91 (5): 1642 -- The Annals of Thoracic Surgery: "Recurrent hyperhidrosis is another potential side effect from hyperhidrosis surgery. Incidence rates vary considerably and have been described as 0% to 65%" http://www.annalsthoracicsurgery.org/cgi/content/full/91/5/1642 most surgeons do not have a clear understanding of their short-term outcomes for the majority of procedures they perform The public would probably be surprised to know that most surgeons do not have a clear understanding of their short-term outcomes for the majority of procedures they perform.	Thank you for your comment. Section 1.2 of the guidance states that 'Clinicians should also tell patients that the procedure sometimes does not reduce upper limb hyperhidrosis'. Cerfolio RJ, De Campos JRM, Bryant AS et al. (2011) The Society of Thoracic Surgeons expert consensus for the surgical treatment of hyperhidrosis. Annals of Thoracic Surgery 91: 1642–8 is included in the overview under 'existing assessments of the procedure'.

Com. no.	Consultee name and organisation	Sec. no.	Comments	Response Please respond to all comments
47	Consultee 3 Patient	**Note**	Of even greater concern is the lack of data on long-term outcomes associated with surgical interventions. Many surgeons argue that they are too busy and do not have the time and resources to conduct this sort of follow-up. This is not entirely without foundation, but it does seem difficult to defend a stance that says “I will continue to work feverishly at the operations I do but not assess how successful my results are”. Guy Maddern (ASERNIP-s): No excuse for poor surgical outcomes MJA INSIGHT, 8 August 2011	Thank you for your comment. Safety and efficacy data have been included from a study with a mean follow-up of 17 years.
48	Consultee 4 Patient	**Note**	Patient that's gone though surgery with major side affects from this surgery	Thank you for your comment.
49	Consultee 5 Patient	**Note**	I had ETS surgery for sweating of the palms in April 2002. The surgery was undertaken privately at the [redacted] Hospital.	Thank you for your comment.
50	Consultee 2 Carer	**Note**	My husband had an ETS in 2003. Â This procedure has left him a shadow of his former self and I would not recommend this procedure to anyone considering undertaking it.	Thank you for your comment.

Com. no.	Consultee name and organisation	Sec. no.	Comments	Response Please respond to all comments
51	Consultee 6 Patient	**Note**	I went to the [redacted] private clinic a good 8 years ago and was suffering from hyperhidrosis caused by panic attacks. This doctor advised me to have the Ets operation and said the side effects were minimal .The procedure was straight forward and it would solve my hyperhidrosis problem I paid £5000 and had the surgery.Extremely scary due the lungs being collapsed I then went back to work in the city.I was moved to Hong kong one month later and it was then the side effects of huge compensatory sweating started.Literally all my lower body was absolutely soaked.I remember getting off the plane and looking at my shirt.You can draw a clear line below my breasts all around my body in a circle ,and the sweat was pouring out unnaturally literally soaking me .I have never worried so much .My body burned like being in a fire.The nerves were awful. I had to wear sweat proof clothes all the time .	Thank you for your comment.

Com. no.	Consultee name and organisation	Sec. no.	Comments	Response Please respond to all comments
52	Consultee 6 Patient	**Note**	I complained to the doctor in the uk but he had no answer whatsoever and hides behind the medical council for protection.I signed a “waver”in [redacted] and he seems to feel he is protected from this.I seek to challenge this legally for full compensation as he has destroyed my life. I was forced to seek more help and researched a dr [redacted] in Brazil.I flew from Hong kong to have the etx procedure cut lower so my chest would stop sweating so unnaturally and the sweat moved to my lower limbs and hopefully stop This procedure worked for a short while then my body went into shock and I had to have 30-40 trigger point injections in Hong kong to take the severe burn sensation away that I also experienced with the first operation.I was given a whole host of extreme pain killers.My legs now sweated profusely ..all over my bottom,my groin,thighs and knee caps.I resorted to wearing sweat proof golf clothes I could no longer exercise as ,as soon as the body temp raises a small amount the sweat pours out.My hair loss accelerated after these operations and I gained weight.	Thank you for your comment.

Com. no.	Consultee name and organisation	Sec. no.	Comments	Response Please respond to all comments
53	Consultee 6 Patient	**Note**	Three years into this operation my life was awful.There was no cure as the original operation did not clamp but cut.He should have given me the trial option to clamp. I researched a reversal specialist in finland called Dr [redacted] ad flew to have a reversal.He removed intercostal muscles in my chest and attached them to the first operation cut, in the hope the nerves would rejoin for normal sweating to reoccur.He could not repair the second cut as the horners syndrome and sexual function risk was too great. Horners syndrome did occur and my pupils were odd sizes. That was 4 years ago and I'm now suffering each and every day from this appalling operation. My body has compensatory sweats all over and even when its cold I'm suffering from burn and sweat. I wear sweat proof clothes and can no longer run .The only exercise is swimming. Ive lost my job.my confidence and my anxiety levels are high. I've contacted the doctor [redacted] asking for help but he refuses to see me and hides behind the medical council. On the chat sites that I now stay off, there are people the world over really suffering from this operation.The side effects are extreme and its like losing your soul.Sadly there are many cases of suicide due to its debilitating effects.I'm told the procedure is now banned in many countries.It must be stopped in the uk.	Thank you for your comment.

Com. no.	Consultee name and organisation	Sec. no.	Comments	Response Please respond to all comments
54	Consultee 6 Patient	**Note**	I'm happy to meet the committee and explain in further detail why an innocent patient has been made to suffer in silence for so long.It has destroyed my life and I want help and some answers why the clinics and hospitals routinely use this procedure with no idea of the after effects that totally cripple the patient for the rest of their life.	Thank you for your comment.
55	Consultee 6 Patient	**Note**	I tried reversal.Ive paid out over £50,000 .I'm still looking for an answer and real help to get my life back please.	Thank you for your comment.
56	Consultee 3 Patient	**General**	Please consider this: almost the entire knowledge base on the success rates, safety and effectiveness of sympathectomy is sourced from those who publish on the subject - (yes, quite logical), - that is the surgeons who actively (and at times aggressively) pursue the patients (advertising on the internet, media). ETS is an elective procedure, and the patients have to desire the implied promise of the surgeon, for the surgeon to be able to perform it and profit from it. In most cases it is a life-style procedure, and cases where the condition of hyperhidrosis is truly DISABLING. Instead - if you read the websites offering this "cure" carefully, you will realise that it is a form of wish-fullfilment, that the surgeons are offering much more than dray hands, and thus appealing to the hopes, desires - to the irrational. The promise of the "real you" "your full potential" "no more anxiety", all are offering a life-chaning experience or transformation (and not just dry hands).	Thank you for your comment. Section 1.3 of the guidance states that 'In view of the risk of side effects this procedure should only be considered in patients suffering from severe and debilitating hyperhidrosis that has been refractory to other treatments.'

Com. no.	Consultee name and organisation	Sec. no.	Comments	Response Please respond to all comments
57	Consultee 3 Patient	**General**	Many websites also publish 'testimonials' from deliriously happy patients - which is a very questionable, and I would think reprehensible tactic to lure the unsuspecting public in just a bit more. They all use very emotive language, and do not highlight the potential dangers. If surgeons would also post letters from the unhappy, injured side, showing photograph of the patients to illustrate just how severe the wrongly titled "compensatory sweating" can be, perhaps there would be a sort of balance. But this way the public has no chance. This wish-fulfilment promise coupled with the esteem medical professionals are held surely will blind the patient/public to the dangers and will prevent a rational decision making. "We quickly discovered that lay people often lack the (medical) knowledge to make well-considered judgements" http://jme.bmj.com/content/38/6/327.abstract?sid=c56f1dc3-84aa-4151-bf65-e9fb96268b59 "there are three main conditions which could impair the autonomy of a patient's medical decision: insufficient information, irrational beliefs/desires, and influence of different framing effects" http://onlinelibrary.wiley.com/doi/10.1111/j.1467-8519.2012.01973.x/abstract	Thank you for your comment. The first citation refers to: Asscher E, Bolt I, Schermer M (2012) Wish-fulfilling medicine in practice: a qualitative study of physician arguments. J Med Ethics 38:327-331 The second citation refers to: Cheng KY (2013) What does respect for the patient's autonomy require? Bioethics 27: 493–499 These are both general studies and do not meet the criteria for inclusion in the overview because they do not report patient outcomes from endoscopic thoracic sympathectomy for primary hyperhidrosis of the upper limb.

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58	Consultee 3 Patient	**General**	I will illustrate later the language used by the surgeons on their websites, how they overestimate the benefit and downplay the harms. Whether they are blind to their own biases and misrepresentation is something that should be considered, but research shows that self-regulation does not work, not even within this profession that is held in such high regard, and surgeons overestimate their own successes.	Thank you for your comment. For each procedure considered by the Interventional Procedures Advisory Committee, evidence and commentary about the efficacy and safety of a procedure are gathered from the following sources: • a rapid review of the published literature, based on an explicit search • information from Specialist Advisers in specialties associated with the procedure • knowledge of expert IPAC members.

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59	Consultee 3 Patient	**General**	There are too many myths that are used when science is lacking. This is called consensus, but if there is an opportunity (like the review process you are doing), the myths and the consensus should be questioned. General myth: Hyperhidrosis is caused by overactivity of the nervous system. This is simply not true, and repeated investiagations have confirmed this. However the myth endures because it justifies destruction of the (part of) SNS. Some surgeons go as far as to claim that there is a "diseased ganglia" that is responsible, and once this diseased ganglia is removed, the overactivity that drives HH stops. It is a myth and a misrepresentation. It is also a gross misrepresentation that ETS interrupts nerve signals to the sweat glands in the skin (of the hand), or that the effect of sympathectomy is limited and LOCAL. It would be the case when ramicotomy is performed, but when the sympathetic chain is disrupted (part of the integrated circuitry of the SNS) is eliminated, the effect is NOT local but affects the whole body/physiology. One example would be that in many cases (50-70%) in case of upper thoracic sympathectomy at the level of T2, T3 or T4 the autonomic function in the feet (including sweating) is also affected. Surgeons refer to this (in a rather ignorant fashion) as an added, unexpected bonus. There are also cases or bilateral HH resolution following unilateral surgery. It happened in other conditions as well, like with chronic pain.	Thank you for your comment.

Com. no.	Consultee name and organisation	Sec. no.	Comments	Response Please respond to all comments
60	Consultee 3 Patient	**General**	But let me include what the former president of the International Society of Sympathetic Surgery - that most aggressively promotes this procedure - has said: "These observations further emphasize our ignorance of the mechanisms responsible for primary hyperhidrosis and of the effect of sympathetic ablation on the function of the remaining sympathetic system. " Moshe Hashmonai World J Surg (2011) 35:54–55 DOI 10.1007/s00268-010-0809-5 limited understanding of the role of the sympathetic nervous system in mediating pain - NSW HEALTH "The role of sympathetic blocks in herpes zoster (HZ) and postherpetic neuralgia (PHN) remains controversial due to methodologic shortcomings in published studies and limited understanding of the role of the sympathetic nervous system in mediating pain." Information for Health Professionals Hunter Integrated Pain Service Updated January 2010 Procedural Intervention Guideline	Thank you for your comment. World J Surg (2011) 35:54–55 does not meet the criteria for inclusion in the overview because it is a commentary on lumbar sympathectomy. This guidance only refers to the indication of primary hyperhidrosis of the upper limb.

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61	Consultee 3 Patient	**General**	Sympathectomy should not be called a 'minimally invasive' just because the 'entry point' to the body is so small. That does not make it minimally invasive, because the impact on the body can be and is profound: "The term ‘‘minimally invasive surgery’’ was initially applied to coelioscopic procedures such as laparoscopic cholecystectomy and hernia repair, thoracoscopic sympathectomy, and arthroscopy, but has since been abandoned, because doing the same operation through a smaller incision is not necessarily less invasive. The term ‘‘minimally invasive parathyroidectomy’’ does not fully convey the nature of the techniques, and, as previously debated in the wider field of minimal-access surgery, carries connotations of increased safety that are not necessarily supported by the existing data [12]." Surg Clin N Am 84 (2004) 717–734 F. Fausto Palazzo, MS, FRCS(Gen), Leigh W. Delbridge, MD, FACS*	Thank you for your comment. The term ‘minimally invasive’ is not used in the guidance document to describe this procedure. Palazzo FF et al. (2004) Minimal-access/minimally invasive parathyroidectomy for primary hyperparathyroidism. Surg Clin N Am 84: 717-734 refers to a different procedure.

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62	Consultee 3 Patient	**General**	We also know from the research, that bad outcomes are rarely reported, and surgeons tend to focus on their success rates as primary outcome: Hyperhidrosis gone... But at what cost? 'Know Your Results', the topic of the ASGBI Annual Scientific Meeting, is of outstanding importance; what is more, the surgeon has to go on knowing his/her results to ensure standards of practice do not slip. The Journal appreciates comments and criticism and the correspondence column remains a crucial part of the BJS in its interaction between editors and reader. It is also part of the scientific process. A more robust and incisive criticism of articles known to be flawed would prevent the retractions that have recently been published in the Lancet." Christopher Russell, Chairman, BJS Society Association of Surgeons of Great Britain and Ireland, ANNUAL REPORT 2004	Thank you for your comment.
63	Consultee 3 Patient	**General**	But is it 'informed consent' if patients are not told about the true nature and consequences of sympathectomy? Does the CONSENSUS the ETS surgeons formed on what to tell patients and how to inform them a sufficient tool for gaining 'informed consent', - or is it devised so that it will protect the medical professionals?	Thank you for your comment. Section 1.2 of the guidance recommends that patients should understand the risks of the procedure.

Com. no.	Consultee name and organisation	Sec. no.	Comments	Response Please respond to all comments
64	Consultee 3 Patient	**General**	Cardiac complications and consequences have been reported in the literature for decades, not only that: ETS is also performed for Angina Pectoris, and more frequently: Long QT Sydnrome, it is a well knonw fact that it will affect electroactivity of the heart. Yet, it is indeed very rare to find an ETS surgeon who will share this information on their website or with a patient. If they do share it, it is in a very desensitised form, to reassure the patient that these consequences are not relevant to them. How can it be nor relevant to them?! And, at the same time, if you ask an ETS surgeon a straight question, they will admit that they do not know how each and every individual will respond to the surgery, how it will affect them. Simply: the outcome of ETS is unpredictable. With the many unknowns and the known risk factors, why are the surgeons so keen to advertise this surgery and why do they claim that is it a permanent 'cure' for the condition?	Thank you for your comment. Persistent bradycardia is listed as an adverse event in section 5.8 of the guidance.
65	Consultee 3 Patient	**General**	"Limited sympathectomy does not reduce postoperative compensatory sweating" http://www.jvascsurg.org/article/S0741-5214(02)75164-1/fulltext	Thank you for your comment. Leseche G, Castier Y, Thabut G et al. (2003) Endoscopic transthoracic sympathectomy for upper limb hyperhidrosis: limited sympathectomy does not reduce postoperative compensatory sweating. Journal of Vascular Surgery 37: 124-128 was identified in the literature search but was not included in the overview because it is a case series with fewer than 200 patients, which was the cut off for this procedure (n=134).

Com. no.	Consultee name and organisation	Sec. no.	Comments	Response Please respond to all comments
66	Consultee 3 Patient	**General**	PATIENTS SHOULD BE CLEARLY WARNED THAT SYMPATHECTOMY IS NOT AS MINOR A PROCEDURE AS USUALLY ASSERTED Ann Thorac Surg 2001;71:1116-1119	Thank you for your comment. Gossot D, Kabiri H, Caliandro R et al. (2001) Early complications of thoracic endoscopic sympathectomy: a prospective study of 940 procedures. Annals of Thoracic Surgery 71: 1116-1119 is included in appendix A of the overview.
67	Consultee 3 Patient	**General**	Acquired cardiovascular disease following sympathectomy We found statistically significant differences (P< .05) in both time and frequency domains. Parameters that evaluate global cardiac autonomic activity (total power, SD of normal R-R intervals, SD of average normal R-R intervals) and vagal activity (rhythm corresponding to percentage of normal R-R intervals with cycle greater than 50 ms relative to previous interval, square root of mean squared differences of successive normal R-R intervals, high-frequency power, high-frequency power in normalized units) were statistically significantly increased after sympathectomy. Low-frequency power in normalized units, reflecting sympathetic activity, was statistically significantly decreased after sympathectomy. Low-/high-frequency power ratio also showed a significant decrease, indicating relative decrease in sympathetic activity and increase in vagal activity. The Journal of Thoracic and Cardiovascular Surgery Volume 137, Issue 3, March 2009, Pages 664-669	Thank you for your comment. Cruz J, Sousa J, Oliveira AG et al. (2009) Effects of endoscopic thoracic sympathectomy for primary hyperhidrosis on cardiac autonomic nervous activity. Journal of Thoracic & Cardiovascular Surgery 137: 664-669 was identified in the literature search but was not subsequently included in the overview because it is a case series with fewer than 200 patients, which was the cut off for this procedure (n=38).

Com. no.	Consultee name and organisation	Sec. no.	Comments	Response Please respond to all comments
68	Consultee 3 Patient	**General**	The influences on the cardiacautonomic nerve system of the ETS of upper thoracic sympathetic nerve were seen to be of a lesser degree at rest. However, theresponse to sympathetic stimulation was suppressed after the surgery. Eur J Cardiothorac Surg 1999;15:194-198	Thank you for your comment. Tedoriya T, Sakagami S, Ueyama T et al. (1999) Influences of bilateral endoscopic transthoracic sympathicotomy on cardiac autonomic nervous activity. European Journal of Cardio-Thoracic Surgery 15: 194-198 was identified in the literature search but was not included in the overview because it is a case series with fewer than 200 patients, which was the cut off for this procedure (n=13).
69	Consultee 3 Patient	**General**	bradycardia and other cardiac complications are common side effects "The most common side effects of sympathectomy are compensatory sweating, gustatory sweating and cardiac changes including decreasing heart rate, systolic-diastolic and mean arterial pressure. The mechanism of bradycardia and other cardiac complications that develop after thoracic sympathectomy are still unclear." http://tipbilimleri.turkiyeklinikleri.com/abstract_54802.html	Thank you for your comment. Persistent bradycardia is listed as an adverse event in section 5.8 of the guidance. The study cited does not meet the criteria for inclusion into the overview because it is an animal study.
70	Consultee 3 Patient	**General**	Bilateral surgical sympathectomy provides a valuable tool for future investigations of the cellular basis of supersensitivity in the myocardium. K Goto, PA Longhurst, LA Cassis, RJ Head, DA Taylor, PJ Rice and WW Fleming Volume 234, Issue 1, pp. 280-287, 07/01/1985 Copyright © 1985 by American Society for Pharmacology and Experimental Therapeutics	Thank you for your comment. The study cited does not meet the criteria for inclusion into the overview because it is an animal study.

Com. no.	Consultee name and organisation	Sec. no.	Comments	Response Please respond to all comments
71	Consultee 3 Patient	**General**	"Our experiments confirm that a denervated heart shows delayed and diminished response to exercise and no response to atropine and propranolol" Impairment of heart action following various methods of surgical denervation T. J. OTTO' and P. C. CHEAH The Nuffield Unit of Clinical Physiology, Department of Surgery, Royal Postgraduate Medical School, Ducane Road, London, W.12 Thorax(1970),25,199. And this small sample (more can be found here: http://ets-effect-on-heart.blogspot.com) only covers the cardiac effect.	Thank you for your comment. The study cited does not meet the criteria for inclusion into the overview because it is an animal study.

Com. no.	Consultee name and organisation	Sec. no.	Comments	Response Please respond to all comments
72	Consultee 3 Patient	**General**	Surgeons will say that their method is less invasive and will provide a lesser imbalance on the cardiac system, yet this has been also investigated, and was proven wrong. In fact there is a reported 'minimally invasive' T2 sympathectomy for palmar HH that resulted in a permanent Bradycardia and required a pacemaker (in an otherwise healthy and young female!). Pacemaker after T2 Sympathectomy "A 23-year-old woman with craniofacial hyperhidrosis underwent bilateral thoracoscopic T2-sympathectomy. Marked sinus bradycardia with a mean heart rate of 49 beats/min by Holter ECG monitoring occurred after the procedure and persisted for > 2 years. Normal sinus node function was found by an invasive electrophysiological study and unopposed vagotonia after sympathectomy was diagnosed. A permanent pacemaker was implanted.Although reduced heart rate is a common phenomenon after bilateral dorsal sympathectomy, intractable bradycardia with permanent pacing is rare. This patient demonstrates one of the potential cardiac complications of bilateral sympathectomy." Pacing and Clinical Electrophysiology Volume 24 Issue 4 Page 524-525, April 2001	Thank you for your comment. Persistent bradycardia is listed as an adverse event in section 5.8 of the guidance. The cited reference is included in appendix A of the overview (Lai CL et al, 2001).

Com. no.	Consultee name and organisation	Sec. no.	Comments	Response Please respond to all comments
73	Consultee 3 Patient	**General**	Sympathectomy results in significant interference of regulatory processes of the body "ESB (whether as ETS as ETSC or ELS) generally represents a substantial interference in regulatory processes of the body. Therefore decision for this operation requires that previously conservative treatments were made. An ESB is therefore at the end of a treatment history, and never at the beginning." Dr. Christoph H. Schick, ETS surgeon, President of the International Society of Sympathetic Surgery (ISSS) text has been translated by google from German http://www.dhhz.de/sympathikus-op/ets-etsc-esb/	Thank you for your comment. Section 1.3 of the guidance states that 'this procedure should only be considered in patients suffering from severe and debilitating hyperhidrosis that has been refractory to other treatments'.
74	Consultee 3 Patient	**General**	But there are many other effects not just cardiac: http://ets-effects-on-immune-system.blogspot.com and http://ets-effects-on-brain.blogspot.com For example: "impairment of the CBF autoregulation after unilateral cervical sympathectomy" Handbook of Clinical Neurology, Vascular Diseases, Part I by P. J. Vinken, G. W. Bruyn, H. L. Klawans, and J. F. Toole , Volume 53, Part 1 Elsevier Health Sciences, 1988	Thank you for your comment. Evidence of efficacy is only included in the overview if it is published in peer-reviewed literature.

Com. no.	Consultee name and organisation	Sec. no.	Comments	Response Please respond to all comments
75	Consultee 3 Patient	**General**	Changes in hemodynamics of the carotid and middle cerebral arteries after sympathectomy Patients who underwent T-2 sympathectomy demonstrated a significant increase in blood flow volume and flow velocities of the CAs and MCA, especially on the left side. Asymmetry of sympathetic influence on the hemodynamics of the CAs and MCA was noted. http://thejns.org/doi/abs/10.3171/jns.1999.90.3.0463 "dynamic cerebral autoregulation is altered by ganglion blockade" Circulation. 106(14):1814-1820, October 1, 2002. or: "Several autonomic reflexes were dramatically affected after sympathectomy" http://onlinelibrary.wiley.com/doi/10.1111/j.1600-0404.2008.01046.x/abstract	Thank you for your comment. Jeng JS, Yip PK, Huang SJ et al. (1999) Changes in hemodynamics of the carotid and middle cerebral arteries before and after endoscopic sympathectomy in patients with palmar hyperhidrosis: preliminary results. Journal of Neurosurgery 90: 463-467 was identified in the literature search but was not subsequently included in the overview because it is a case series with fewer than 200 patients, which was the cut off for this procedure (n=68). Circulation 2002;106:1814-20 is a study which does not describe work relating to patients treated by endoscopic thoracic sympathectomy. Koskinen LO, Blomstedt P (2008) Sympathicotomy affects cutaneous blood flow, temperature, and sympathicus-mediated reflexes. Acta Neurologica Scandinavica 118: 402-406 was identified in the literature search but did not meet inclusion criteria for the overview.

Com. no.	Consultee name and organisation	Sec. no.	Comments	Response Please respond to all comments
76	Consultee 3 Patient	**General**	It is clear from just a brief review of the available literature that surgeons are grossly negligent in their duty to educate themselves on the surgical procedure they offer, or engage in a knowing misrepresentation of the surgical procedure that has a potential to cause great harm. They also continue to misrepresent the few side-effects they admit for this surgery. Most importantly they describe the peri-lesional sweating that occurs in a very high number of patients as a "compensatory" mechanism - because the patient will not sweat from the palms, the sweat will be 'shifted' to other areas, that is: the same amount they would sweat on the palms is shifted elsewhere. Firstly: research does not back this theory, secondly, if this would be the case, ALL patients would have SOME level of "compensatory sweating" in lieu of hand sweating, and you would not see catastrophic cases where they have to change their clothes several times during the day. That kind of HH can really be disabling then, and when it occurs, there is nothing that can be done, as it is too large area to use Botox on, or to apply Ionthoporesis, which incidentally is VERY effective for palmar Hyperhidrosis - but only if you ask someone who does not offer the surgical cure!	Thank you for your comment.

Com. no.	Consultee name and organisation	Sec. no.	Comments	Response Please respond to all comments
77	Consultee 3 Patient	**General**	Your recommendations are lacking on this point, clearly you mostly consulted the literature published by the ETS industry. Allow me to bring to your attention some that are not from the surgeons. Also: remember, medication and any other modality for HH and blushing can be discontinued if it does not suit the patient. This is NOT the case with ETS. The consequences can be dramatic (not in a good way) and there is no way to undo the surgery (not even the clamping method no matter how hard they try to present it as a reversable alternative. (If ETS is so very successful and patients are so very happy with the outcome, why was there a need to develop a reversible form of surgery?)	Thank you for your comment. For each procedure considered by the Interventional Procedures Advisory Committee, evidence and commentary about the efficacy and safety of a procedure are gathered from the following sources: • a rapid review of the published literature, based on an explicit search • information from Specialist Advisers in specialties associated with the procedure • knowledge of expert IPAC members.

Com. no.	Consultee name and organisation	Sec. no.	Comments	Response Please respond to all comments
78	Consultee 3 Patient	**General**	Here are the alternatives that should be compulsory and NOT overseen by a surgeon who will no doubt encourage the patient to drop the useless treatment and go for the 'cure'. Patients have to be well informed so that they understand what is at stake. If there are very little consequences from the surgery than maybe persisting with ineffective alternatives is reasonable - at this is how the surgery and alternatives is positioned currently. However this is not the reality. Also: the treating doctor (dermatologist, neurologist) should make sure that they themselves udnerstand the effects of ETS, and insist that patients persist with the non-surgical options - because they work. Patients will want to go for the permanent solution, the 'cure' but they have to understand what they are actually choosing. Currently the ETS surgeons determine what treatments people with HH and blushing get, and that present a strong conflict of interest.	Thank you for your comment. Section 1.3 of the guidance states that ‘this procedure should only be considered in patients suffering from severe and debilitating hyperhidrosis that has been refractory to other treatments’.

Com. no.	Consultee name and organisation	Sec. no.	Comments	Response Please respond to all comments
79	Consultee 3 Patient	**General**	Here is the literature: Drionic effectively "...reduced sweating for up to 6 weeks..." Clinical Studies The following comments are from clinical studies which demonstrated the safety and effectiveness of Drionic: • Efficacy of the Drionic unit in the treatment of hyperhidrosis. J Am Acad Dermatol 1987;16:828-832. "...the Drionic unit appears to have a definite place in the treatment of hyperhidrosis." Daniel L. Akins, M.D. John L. Meisenheimer, M.D. Richard L. Dobson, M.D., Professor & Chairman, Dept. of Dermatology From the Department of Dermatology, Medical University of South Carolina, Charleston, South Carolina • A new device in the treatment of hyperhidrosis by iontophoresis. Cutis 1982;29:82-89. Drionic effectively "...reduced sweating for up to 6 weeks..." Further, the study concluded that "Because of its design, it has great potential for home use." CPT John L. Peterson, M.D. MAJ Sandra I. Read, M.D. COL Orlando G. Rodman, M.D. Chief, Dermatology Service From the Dermatology Service, Dept. of Medicine, Walter Reed Army Medical Center, Washington, DC	Thank you for your comment. The IP programme does not assess the efficacy and safety of comparator interventions.

Com. no.	Consultee name and organisation	Sec. no.	Comments	Response Please respond to all comments
80	Consultee 3 Patient	**General**	• Tap water iontophoresis in the treatment of hyperhidrosis. Int J Dermatol 26;1987:194-197. "Tap water iontophoresis is a recognized method of reducing sweat in various parts of the body. The Drionic device is a battery-operated method of inducing tap water iontophoresis. This simple device may be used at home and is effective in reducing hyperhidrosis for as long as 6 weeks." Mervyn L. Elgart, M.D., Professor & Chairman, Dept. of Dermatology Glenn Fuchs, M.D. From the Department of Dermatology, George Washington Univ. Medical Center, Washington, DC. • Efficacy of the Drionic unit in the treatment of hyperhidrosis. JAm Acad Dermatol 16:828-832, Apr. 1987. Elgart ML, Fuchs G: Tap water iontophoresis in the treatment of hyperhidrosis. Int J Dermatol 26: 194-197, Apr. 1987. (old model)	Thank you for your comment. The IP programme does not assess the efficacy and safety of comparator interventions.

Com. no.	Consultee name and organisation	Sec. no.	Comments	Response Please respond to all comments
81	Consultee 3 Patient	**General**	"Systemic therapy with glycopyrrolate or clonidine can be effective for HH. Nearly two-thirds responded to therapy, and less than a quarter had treatment-limiting adverse effects, all of which were self-limited and nonserious" J Am Acad Dermatol. 2012 Mar;66(3):387-92. doi: 10.1016/j.jaad.2011.01.023. Epub 2011 Aug 4. http://www.ncbi.nlm.nih.gov/pubmed/21820204 A randomized placebo-controlled trial of oxybutynin for the initial treatment of palmar and axillary hyperhidrosis "Palmar and axillary hyperhidrosis improved in >70% of the patients, and 47.8% of those presented great improvement. Plantar hyperhidrosis improved in >90% of the patients. Most patients (65.2%) showed improvements in their quality of life. The side effects were minor, with dry mouth being the most frequent (47.8%)." Journal of Vascular Surgery, Volume 55, Issue 6, June 2012, Pages 1696-1700	Thank you for your comment. The IP programme does not assess the efficacy and safety of comparator interventions.

Com. no.	Consultee name and organisation	Sec. no.	Comments	Response Please respond to all comments
82	Consultee 3 Patient	**General**	significant number of primary hyperhidrosis patients (more than 70%) were so pleased with the results that they decided to forgo the surgery "At the beginning of our study, thoracic sympathectomy was indicated indiscriminately to all primary hyperhidrosis patients. The authors observed a number of patients who were dissatisfied with the results obtained from this technique, particularly due to the undesirable but frequent side effect of compensatory hyperhidrosis. Hyperhidrosis is a condition that deeply affects the individual's emotional component, and many of them, despite being warned previously, are not psychologically prepared to address this new situation. The authors then included a psychologist in the study and directed the patients for routine psychological evaluations to prepare and better select them for surgery. In addition, the authors began to study a pharmacological formula to medicate these patients for the same purpose. Oxybutynin is an anticholinergic drug that has been used safely at high doses (up to 15 mg/day) to treat micturition disorders, and a side effect observed in these patients has been diminished sudoresis. Studies conducted by our group have documented the clinical benefits of a low dose of oxybutynin (10 mg/day). The authors found that a significant number of primary hyperhidrosis patients (more than 70%) were so pleased with the results that they decided to forgo the surgery [50-53]." Expert Review of Dermatology 7.6 (Dec 2012): 529-538.	Thank you for your comment. The IP programme does not assess the efficacy and safety of comparator interventions.

Com. no.	Consultee name and organisation	Sec. no.	Comments	Response Please respond to all comments
83	Consultee 3 Patient	**General**	"Only 56% would recommend thoracoscopic sympathectomy to others with hyperhydrosis" http://www.ncbi.nlm.nih.gov/pubmed/21539945	Thank you for your comment. Currie AC, Evans JR, Thomas PR (2011) An analysis of the natural course of compensatory sweating following thoracoscopic sympathectomy. International Journal Of Surgery 9: 437-439 was identified in the literature search but was not subsequently included in the overview because it is a case series with fewer than 200 patients, which was the cut off for this procedure (n=46).
84	Consultee 3 Patient	**General**	Long-term efficiency? "40% affirmed they would ask for the operation if it were to be redone, 53% recurrence At an average 12 years after surgery, 47% of patients were satisfied with the treatment results, 40% were disappointed. 53% complaining about a decent to moderate recurrence of hand sweating and compensatory and gustatory sweating were observed in 9 (60%) and 5 (33%) patients, respectively. Interact CardioVasc Thorac Surg(2009) 8 (1): 54-57.	Thank you for your comment. Walles T et al. (2009) Long-term efficiency of endoscopic thoracic sympathicotomy: survey 10 years after surgery. Interactive Cardiovascular & Thoracic Surgery 8: 54-57 was identified in the literature search but was not included in the overview because it is a case series with fewer than 200 patients, which was the cut off for this procedure (n=15).
85	Consultee 3 Patient	**General**	Recurrent hyperhidrosis is another potential side effect from hyperhidrosis surgery The Society of Thoracic Surgeons Expert Consensus for the Surgical Treatment of Hyperhidrosis -- Cerfolio et al. 91 (5): 1642 -- The Annals of Thoracic Surgery: "Recurrent hyperhidrosis is another potential side effect from hyperhidrosis surgery. Incidence rates vary considerably and have been described as 0% to 65%"	Thank you for your comment. Cerfolio RJ, De Campos JRM, Bryant AS et al. (2011) The Society of Thoracic Surgeons expert consensus for the surgical treatment of hyperhidrosis. Annals of Thoracic Surgery 91: 1642–8 is included in the overview.

Com. no.	Consultee name and organisation	Sec. no.	Comments	Response Please respond to all comments
86	Consultee 3 Patient	**General**	No compensatory sweating after botulinum toxin treatment of palmar hyperhidrosis No compensatory sweating after botulinum toxin... [Br J Dermatol. 2005] - PubMed - NCBI: "Recordings were made at 16 skin areas and compared with subjective estimates of sweating. RESULTS: Following treatment, palmar evaporation decreased markedly and then returned slowly towards pretreatment values, but was still significantly reduced 6 months after treatment. No significant increase of sweating was found after treatment in any nontreated skin area. CONCLUSIONS: Successful treatment of palmar hyperhidrosis with botulinum toxin does not evoke compensatory hyperhidrosis in nontreated skin territories."	Thank you for your comment. The IP programme does not assess the efficacy and safety of comparator interventions.
87	Consultee 3 Patient	**General**	A randomized placebo-controlled trial of oxybuty... [J Vasc Surg. 2012] - PubMed - NCBI "Palmar and axillary hyperhidrosis improved in >70% of the patients, and 47.8% of those presented great improvement. Plantar hyperhidrosis improved in >90% of the patients. Most patients (65.2%) showed improvements in their quality of life. The side effects were minor, with dry mouth being the most frequent (47.8%). CONCLUSIONS: Treatment of palmar and axillary hyperhidrosis with oxybutynin is a good initial alternative for treatment given that it presents good results and improves quality of life." http://www.ncbi.nlm.nih.gov/pubmed/22341836	Thank you for your comment. The IP programme does not assess the efficacy and safety of comparator interventions.

Com. no.	Consultee name and organisation	Sec. no.	Comments	Response Please respond to all comments
88	Consultee 3 Patient	**General**	Removal of the clips from the sympathetic trunk does not provide resolution of compensatory sweating in 1 year of observation. T6-9 block does not provide remedy for compensatory hyperhidrosis. Regional abdomino-lumbar iontophoresis seems to be very promising, but further research and followup are mandatory. http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3458267/	Thank you for your comment. The paper cited describes 17 patients who were treated for compensatory sweating. It does not meet the criteria for inclusion in the overview because it does not report patient outcomes for endoscopic thoracic sympathectomy for primary hyperhidrosis of the upper limb.
89	Consultee 3 Patient	**General**	"the medical profession is so trusted that its activities are rarely questioned" (Paul Komesaroff, Monash University; Ian Kerridge, University of Sydney, andWendy Lipworth, University of New South Wales https://theconversation.edu.au/big-debts-in-small-packages-the-dangers-of-pens-and-post-it-notes-4949) So it comes to you to make sure that the public is protected from a predatory behavior of anyone - even medical professionals.	Thank you for your comment.

Com. no.	Consultee name and organisation	Sec. no.	Comments	Response Please respond to all comments
90	Consultee 3 Patient	**General**	Severity of compensatory sweating after thor... [Ann Thorac Surg. 2004] - PubMed - NCBI: "Compensatory sweating occurred in 89% of patients and was so severe in 35% that they often had to change their clothes during the day. The frequency of compensatory sweating was not significantly different among the three groups, but severity was significantly higher after Th2-4 sympathectomy for axillary hyperhidrosis (p = 0.04). Gustatory sweating occurred in 38% of patients, and 16% of patients regretted the operation. CONCLUSIONS: Compensatory and gustatory sweating were remarkably frequent side effects after thoracoscopic sympathectomy for primary hyperhidrosis." http://www.ncbi.nlm.nih.gov/pubmed/15276490	Thank you for your comment. Licht PB, Pilegaard HK (2004) Severity of compensatory sweating after thoracoscopic sympathectomy. Annals of Thoracic Surgery 78: 427-431 was identified in the literature search but was not included in the overview because it is a case series with fewer than 200 patients, which was the cut off for this procedure (n=158).
91	Consultee 3 Patient	**General**	"we stopped performing sympathectomies in 1994, since we were alarmed by the complication and failure rate" Physical medicine Russell, Alan L. Patient Care 13.2 (Feb 2002): 19.	Thank you for your comment. There is not enough information to identify the study that has been referred to.
92	Consultee 3 Patient	**General**	"we argue that “informed” consent is a process that is usually incomplete, despite trappings and assumptions that help to create the illusion of completeness." http://link.springer.com/article/10.1007/s11673-012-9414-7	Thank you for your comment. The cited study does not report outcomes for patients treated by endoscopic thoracic sympathectomy.

Com. no.	Consultee name and organisation	Sec. no.	Comments	Response Please respond to all comments
93	Consultee 3 Patient	**General**	Referring an anxious patient with palmar hyperhidrosis to surgery may constitute malpractice "A surgical treatment for anxiety-triggered palmar hyperhidrosis is not unlike treating tearfulness in major depression by severing the nerves to the lacrimal glands." "Referring an anxious patient with palmar hyperhidrosis to surgery without first completing a proper trial of psychotropic medication may constitute malpracticeespecially if the patient experiences some of the more severe surgical complications which can occur during sympathectomy" (Bracha et al. 2006 Br J Dermatol. 2006 Dec;155(6):1299-300.)	Thank you for your comment. This guidance is specifically for the indication of primary hyperhidrosis.

Com. no.	Consultee name and organisation	Sec. no.	Comments	Response Please respond to all comments
94	Consultee 3 Patient	**General**	Studies by ETS surgeons have claimed an initial satisfaction rate around 85-95% with at least 2%-19% regretting the surgery and up to 51% of the patients complaining about decreased quality of life. However, at least one study shows a satisfaction rate as low as 28.6. Most patients report various adverse reactions as a result of the surgery. And, whilst the results of endoscopic thoracic sympathectomy might appear moderately successful in treating hyperhidrosis, there is a high risk of complications. Along with the normal side effects of surgery, such as pain, bleeding and bruising, the most frequent post surgical complication is 'compensatory hyperhidrosis' – where excessive sweating in seen another part of the body as a result, most commonly the lower back or upper thighs. There is also the potential surgical complication of a pneumothorax, where air becomes trapped between the lung and the internal chest wall, making breathing difficult and painful. Whilst this can be a life-threatening condition, if not too large it generally resolves over time with out further surgical intervention.	Thank you for your comment. Section 5 of the guidance reports rates of regret and complications, including compensatory sweating and Pneumothorax.

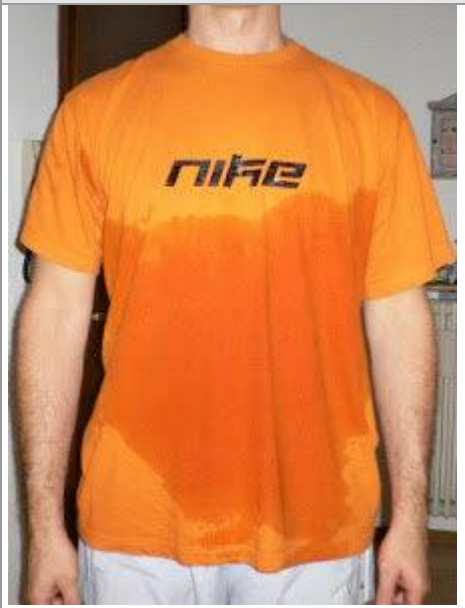
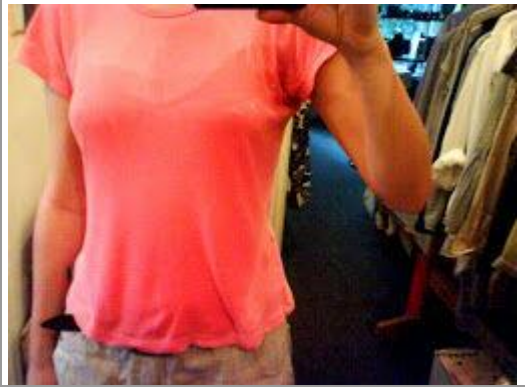
Com. no.	Consultee name and organisation	Sec. no.	Comments	Response Please respond to all comments
95	Consultee 3 Patient	**General**	Other fairly common complications of endoscopic thoracic sympathectomy include: Rhinitis - inflammation of the nose and Gustatory sweating - sweating on the face and neck after eating food, Rarer complications of endoscopic thoracic sympathectomy as a result of nerve damage include: Damage to the phrentic nerve. – Phrentic nerve damage can lead to long term shortness of breath, repair of the nerve during the surgery is also possible in some cases.. Horner's syndrome, - a condition that causes drooping of the eyelids. Endoscopic thoracic sympathectomy remains a fairly controversial procedure; with advocates claiming high success rates and minimal complications when performed correctly, whilst opponents report huge variation in post operation satisfaction levels and poor consistency in the surgical procedure as a result of anatomical variations in the sympathetic nerve network between patients and personal preferences between doctors.	Thank you for your comment. The complications described are all listed in section 5 of the guidance, with the exception of phrenic nerve damage.
96	Consultee 3 Patient	**General**	Hyperhidrosis is not caused by 'overactivity' of the sympathetic nervous system Our highly interesting findings indicate that primary focal hyperhidrosis is based on a much more complex autonomic dysfunction than generalised sympathetic overactivity and seems to involve the parasympathetic nervous system as well. Eur Neurol 2000;44:112-116 (DOI: 10.1159/000008207)	Thank you for your comment. The cited study does not report outcomes for patients treated by endoscopic thoracic sympathectomy.

Com. no.	Consultee name and organisation	Sec. no.	Comments	Response Please respond to all comments
97	Consultee 3 Patient	**General**	Sympathectomy leads to calcinosis Of 20 patients who had no evidence of calcinosis pre-operatively, 11 developed medial calcification after unilateral operation exclusively on the side of sympathectomy. In seven patients calcinosis was detected in both feet after bilateral operation. In conclusion,sympathetic denervation is one of the causes of Monckeberg's sclerosis regardless of diabetes mellitus. Goebel FD, Fuessl HS. Diabetologia. 1983 May;24(5):347-50.	Thank you for your comment. The cited study does not report outcomes for patients treated by endoscopic thoracic sympathectomy.
98	Consultee 3 Patient	**General**	sympathectomy created imbalance of autonomic activity and functional changes http://informahealthcare.com/doi/abs/10.1080/02770900802660949	Thank you for your comment. Kim YD, Lee SH, Lee SY et al. (2009) The effect of thoracosopic thoracic sympathetomy on pulmonary function and bronchial hyperresponsiveness. Journal of Asthma 46: 276-279 was identified in the literature search but was not included in the overview because it is a case series with fewer than 200 patients, which was the cut off for this procedure (n=54).
99	Consultee 3 Patient	**General**	Bradicardia, hypotension and hypoxia are frequently observed during sympathicotomy Clinical Autonomic Research Volume 13, Number 2, 147-161,	Thank you for your comment. The cited reference relates to a series of conference abstracts.
100	Consultee 3 Patient	**General**	83% of patients who underwent T2 sympathectomy reported severe compensatory sweating one year after surgery and the majority of those reported they regretted the decision to have the surgery. Heather Ennis. Medical Post. Toronto: Feb 15, 2005. Vol. 41, Iss. 7; pg. 17, 2 pgs	Thank you for your comment. The citation does not appear to be a peer-reviewed publication.

Com. no.	Consultee name and organisation	Sec. no.	Comments	Response Please respond to all comments
101	Consultee 3 Patient	**General**	Circadian Rhythm eliminated by Sympathectomy The abrupt increase and decrease in BP observed at the time when the lighting conditions are changed are eliminated by chemical sympathectomy The disruption of the baroreflex selectively eliminates the circadian rhythm of BP, and the circadian rhythms of BP and HR are modulated by the autonomic nervous system in rats. The circadian rhythms of BP and HR are regulated by different mechanisms involving the autonomic nervous system. (Circulation. 1997;96:1667-1674.) © 1997 American Heart Association, Inc.	Thank you for your comment. The study cited does not meet the criteria for inclusion into the overview because it is an animal study.
102	Consultee 3 Patient	**General**	Effect of adrenalectomy or sympathectomy on spinal cord blood flow We conclude that adrenalectomy near-totally ablates the hypothermia-associated increase in RSCBF (regional spinal cord blood flow) measured in intact rats and that abdominal sympathectomy totally ablates it. This evidence complements morphological evidence for adrenergic innervation of the spinal cord vasculature. Heart and Circulatory Physiology, Vol 260, Issue 3 827-H831, Copyright © 1991 by American Physiological Society A. Iwai, W. W. Monafo and S. G. Eliasson Department of Surgery, Washington University School of Medicine, St. Louis, Missouri 63110.	Thank you for your comment. The study cited does not meet the criteria for inclusion into the overview because it is an animal study.

Com. no.	Consultee name and organisation	Sec. no.	Comments	Response Please respond to all comments
103	Consultee 3 Patient	**General**	disturbed peripheral vascular and heart rate responses after sympathectomy Thoracic sympathectomy can result in reduced sweating and disturbed peripheral vascular and heart rate responses. Patients should be warnedthat these mechanisms may play a role in the development of exertional heat stroke. Alan D.L. Sihoe, FRCSEd(CTh)a,*,Raymond W.T. Liu, MRCPb,Alex K.L. Lee, MRCPb, Chak-Wah Lam, FHKAMb,Lik-Cheung Cheng, FRCS	Thank you for your comment. Sihoe AD, Liu RW, Lee AK et al. (2007) Is previous thoracic sympathectomy a risk factor for exertional heat stroke? Annals of Thoracic Surgery 84: 1025–7 is included in table 2 of the overview.
104	Consultee 3 Patient	**General**	Please consider these excerpts for your new guidelines. There are many more facts/articles that should be looked at, but right now the most important thing is to realise that there is a need for a major shift in how this surgery is presented, promoted and for the process of informed consent to be effective, based on science - and not consensus. You are the gatekeepers, and it is your role to ensure that this happens. Surgeons will be reluctant to change, I can assure you, they are convinced that they are untouchable and within their right to offer ETS. I know, because I have exchanged emails with a couple of them. One surgeon claimed that patients who want Botox injections for palmar HH, will need general anesthesia. The other claimed that Ionthoporesis works for 6 - 12 hours and then has to be repeated. There are many more who attempt to discredit the non-surgical options, either by telling a lie like these, or carefully implying and influencing the decision of the patient. And that should not occur.	Thank you for your comment.

Com. no.	Consultee name and organisation	Sec. no.	Comments	Response Please respond to all comments
105	Consultee 3 Patient	**General**	Remember that ETS is a nerve injury, and it will have all the consequences that are reported in the literature for nerve injury. While surgeons will claim that they have developed a better, more sophisticated method of performing ETS, and they renamed it or are using a harmonic ....scalpel, it is still a nerve injury.	Thank you for your comment.
106	Consultee 3 Patient	**General**	Image showing how "compensatory" sweating looks like. Each and every patient considering ETS should have access to these images from their surgeon. 	Thank you for your comment.

Com. no.	Consultee name and organisation	Sec. no.	Comments	Response Please respond to all comments
106	Consultee 3 Patient	**General**	 	

Com. no.	Consultee name and organisation	Sec. no.	Comments	Response Please respond to all comments
107	Consultee 1 Patient	**1.1**	Re 1.1 I strongly disagree; I believe that Sweden is correct in only allowing ETS to be used in a controlled way within the framework of scientific studies (see IP overview).	Thank you for your comment. The Swedish Council on Health Technology Assessment (SBU) Alert is summarised in the overview under 'existing assessments of the procedure'.