Guidelines

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European recommendations from healthcare professionals and people living with obesity on safe practice for bariatric and metabolic surgery medical tourism: a modified Delphi consensus statement from EASO, IFSO-EC, and ECPO

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Background: Bariatric and metabolic surgery tourism (BMT) is becoming an increasingly popular route to treatment for patients living with obesity. Recent reports have highlighted that some patients travelling abroad for bariatric surgery have received inadequate care, fraudulent care, and, tragically, some cases have resulted in death. This study aimed to define consensus in Europe regarding safe practices concerning BMT.

Materials and methods: IFSO-EC, EASO and ECPO initiated a task force to delineate safe practices in BMT. Two expert European panels were convened, one comprised of healthcare professionals (identified from EASO and IFSO-EC) and the other of patient representatives (identified from ECPO). The study utilized a modified Delphi consensus methodology, and 135 questions were administered. Surveys were conducted anonymously online, and consensus was defined as 70% agreement. Themes analyzed regarding BMT included regulation, pre-operative evaluation, operative care, post-operative care, advertising and online information.

Results: One hundred and nineteen healthcare professionals and 88 patient representatives participated from 26 countries. The healthcare professional panel included 66 bariatric surgeons, 28 endocrinologists, 18 dietitians, three nurses, two psychologists, one general practitioner and one gastroenterologist. Three questionnaire rounds were conducted for the healthcare professional panel, and two were performed for the patient representative panel. Consensus recommendations were given across all themes relevant to BMT. These included evaluating and managing psychological health, sleep apnea, cardiovascular disease, liver health and dietetic assessment. The recommendations covered the requirements for regulatory standards, including surgeon accreditation and procedural volume. They also included recommendations regarding patient education, standardized operative care, online information provision, and follow-up.

Conclusions: Through collaboration with healthcare professionals and patients living with obesity, we provide European recommendations regarding safe practices concerning BMT. Further evaluation is required regarding outcomes following BMT. These data, alongside the Delphi consensus recommendations, will inform BMT clinical guideline development.

Keywords: bariatric surgery, guideline, healthcare tourism, obesity, overweight, patient safety

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Introduction

Bariatric and Metabolic Surgery (BMS) is the most effective intervention for weight reduction and health improvement in people living with obesity[1-3]. However, access is limited; UK data delineates that although over 3.6 million people in England are eligible for BMS, only 4035 procedures were carried out in 2021-2022 in the National Health Service (NHS)[4,5]. In several European countries, waiting lists can reach multiple years. Consequently, bariatric and metabolic surgery tourism (BMT) is growing in Europe, with patients traveling for self-funded treatment[6]. A recent survey by the International Federation for the Surgery of Obesity and Metabolic Disorders (IFSO) delineated that the factors underpinning BMT include higher cost and long waiting lists in the patient's home country[7]. A systematic review also reported that multiple factors underpinned the rise of BMT, including long waiting lists, strict criteria for BMS locally, lack of local services and low cost internationally[8]. Global data shows BMT accounts for at least 2% of global BMS[9], but this is likely an underrepresentation as BMT is often not recorded in national registries.

There is growing concern about BMT services not following international guidelines. Patient forums and media organizations have detailed some cases of BMT that have resulted in inadequate care, fraudulent care, and, unfortunately, some cases which have resulted in death. A survey of bariatric clinics offering BMT highlighted that (1) 32.4% are internationally accredited, (2) 44% do not address BMS risks and benefits, (3) only 23.5% recommend liaising with the patient's primary care physician, and (4) less than a third of centers offer either psychological or dietetic assessment[6]. Bariatric centers often use targeted social media campaigns and incentivized packages and it is unclear how safety is prioritized at reduced costs. Patient safety is crucial in modern bariatric care, achieved through the multidisciplinary team's (MDT) work, assessing the patient's physical and psychological health[10]. The MDT includes bariatric surgeons, physicians, dietitians, psychologists and other specialists when appropriate[11]. When these safety-critical criteria are not adhered to, post-operative complications are more likely[11], which may underpin the cases reported by the media and patients.

The issue of BMT is gaining attention. A recent national consensus on BMT in Mexico focused on safe practice in the pre-operative phase, post-operative phase, patient selection, follow-up, and ethical and legal considerations. However, this study only involved bariatric surgeons in Mexico's medical tourism sector[9]. Modern bariatric care involves a specialist MDT; input from other healthcare professionals (HCPs) in bariatrics and from patients would be beneficial[9]. This study aims to provide consensus through collaboration with stakeholders within the European Association for the Study of Obesity (EASO), IFSO European Chapter (IFSO-EC) and the European Coalition for People living with Obesity (ECPO) regarding safe practice concerning BMT.

Methods

This study utilized a modified Delphi Consensus methodology based on other projects, including the National Consensus Statement in Mexico[9,12,13]. The protocol was drafted a priori, and the project was approved by a Research Ethics Committee (LRS/DP-23/24-39312). The study was conducted in two phases:

- **Phase 1:** Developing questions for the Modified Delphi Process via literature review and stakeholder collaboration.
- **Phase 2**: Modified Delphi Questionnaire Rounds of healthcare professionals and patient representatives.

Study population

There were two European panels: one of HCPs and one of patient representatives. Experienced HCPs working within European bariatric centers were identified by liaising with stakeholders within IFSO-EC and EASO. E-mail invites were sent to EASO Collaborating Centers for Obesity Management (COMs), healthcare professional members of EASO and members of IFSO-EC. This panel consisted of bariatric surgeons, endocrinologists, general practitioners, dietitians, psychologists, nurses and other HCPs. The second group consisted of patient representatives. These individuals were identified from ECPO participation; email invites were sent to ECPO members and distributed via respective national societies. We set a sample size of at least 30 for each panel, with no maximum, to gather sufficient data. For the HCP panel, we aimed for at least 40% bariatric surgeons. We also purposely invited participants from across European countries to this study to ensure wider European representation and to minimize the risk of bias from one country's population. Participants were invited to participate through a pre-approved email containing a link to the survey. The survey's initial page contained the participant information sheet, with the subsequent page containing consent information. Informed consent was taken from all participants prior to their participation.

Questionnaire

Questions for the survey of HCPs and expert patients were developed via literature review and collaboration with stakeholders from EASO, ECPO and IFSO-EC. The literature review comprised a search on PubMed, focusing on existing research related to bariatric tourism, which informed the formulation of survey questions. Stakeholder involvement included collaboration among the authors, who were representatives from EASO, IFSO-EC, and ECPO. Healthcare professional stakeholders included representation from across the bariatric MDT. This collaboration involved an online meeting to discuss key topics to be addressed in the study, and all representatives provided detailed contributions throughout the questionnaire development. All questions during the Delphi process involved closed questions on a 5-point Likert scale (options: Strongly Disagree, Disagree, Neither Agree or Disagree, Don't Know, Agree, Strongly Agree). The survey was administered using JISC online survey software. Each section of the questionnaire was composed of open-ended questions to allow participants to provide qualitative input and feedback regarding the questions. These qualitative answers were then analyzed alongside the quantitative closed questions to iteratively improve the questions and develop new questions for further rounds. Questions in the second and third rounds were then a mixture of questions from the previous round, which did not achieve Grade A Consensus (≥90% agreement), amendments of

previous questions, and new questions developed from qualitative feedback. Questions from previous rounds, which were asked again, included information about the level of agreement in the previous round.

Questions for HCPs revolved around five themes. These included regulation of BMT, the provision of care, eligibility criteria for BMT, operative care, advertising and online information. Specific aspects of eligibility included: (1) psychological assessment, (2) dietetic assessment, (3) sleep apnea assessment, (4) cardiovascular disease assessment, and (5) liver assessment. Therefore, these questions used branching logic and were only asked to HCPs with specialist knowledge. For example, "Do you have experience assessing obstructive sleep apnea in patients undergoing bariatric surgery?" with a fixed yes/no response. Questions regarding the operative care of patients undergoing BMS were only asked of bariatric surgeons.

Statistical analysis

Descriptive statistics assessed the panelists' characteristics. Consensus was set *a priori* as 70% of participants agreeing/strongly agreeing or disagreeing/strongly disagreeing with a statement. The response "don't know" was not used when calculating the consensus level of agreement (level of consensus = (number agree + number strongly agree)/(total number – number of don't know responses)). The language was iteratively modified to maximize agreement by analyzing qualitative feedback on each question. Based on a recent consensus statement by Rubino et al.[12], we used modified criteria to grade consensus: Grade A (90% agreement), Grade B (80% to <90.0% agreement), Grade C (70% to <80.0% agreement), No Consensus (<70% agreement). Statements were not progressed to further rounds if 90% consensus was achieved, as this represented Grade A consensus.

Results

The Delphi Consensus process ran from 12/10/2023 until 17/05/2024. One hundred and nineteen healthcare professionals and 88 patient representatives participated. The response rate for the HCP panelists was 68.9% (82/119) in Round 2 and 79.0% (94/119) in Round 3. The response rate for the patient representative panel was 65.9% in Round 2. The HCP panel included 66 bariatric surgeons, 28 endocrinologists, 18 dietitians, three nurses, two psychologists, one family medicine specialist and one gastroenterologist. HCPs from 24 countries took part; 22.7% from the UK, 14.3% from Italy, 8.4% from Spain and 5.9% from Germany. Patient representatives from eight countries participated: 78.4% from Ireland, 11.4% from the UK, and 2.3% from Denmark. The HCP panel had an average of ~15.9 ± 8.6 years' experience, totaling 1686.5 years. The bariatric surgeons completed an average of 185 ± 165 surgeries/year, totaling 10 535 surgeries/year. 25.2% of participants had worked in an obesity service in a country different to where they currently practiced. HCPs treated an average of 525 ± 666 patients/year, totaling 56,698 patients/year (Table 1). 135 statements were assessed: 109 across three HCP panel rounds and 26 across two patient representative panel rounds.

Table 1

Demographic characteristics of health care professional survey panel

	Demographic		Number (%)
Health care professional panel	Sample size		119
	Country	United Kingdom (UK)	27 (22.7%)
		Italy	17 (14.3%)
		Spain	10 (8.4%)
		Germany	7 (5.9%)
		The Netherlands	7 (5.9%)
		Ireland	6 (5.0%)
		France	6 (5.0%)
		Switzerland	5 (4.2%)
		Turkey	4 (3.4%)
		Sweden	4 (3.4%)
		Romania	4 (3.4%)
		Austria	3 (2.5%)
		Portugal	2 (1.7%)
		Poland	2 (1.7%)
		Norway	2 (1.7%)
		Israel	2 (1.7%)
		Greece	2 (1.7%)
		Denmark	2 (1.7%)
		Belgium	2 (1.7%)
		North Macedonia	1 (0.8%)
		Serbia	1 (0.8%)
		United Arab Emirates	1 (0.8%)
		Croatia	1 (0.8%)
		Bulgaria	1 (0.8%)
	Profession	Bariatric surgeon/surgeon	66 (55.5%)
		Endocrinologist	28 (23.5%)
		Dietitian	18 (15.1%)
		Nurse practitioner/bariatric specialist nurse	3 (2.5%)
		Psychologist	2 (1.7%)
		General practitioner	1 (0.8%)
		Gastroenterologist	1 (0.8%)
	Surgeons (number of surgeries per year)	Total	10 535
		Mean ± SD	182 ± 165
		Median (IQR)	135 (70–250)
	Years involved in care of people living with obesity	Total	1686.5 years
		Mean ± SD	15.9 ± 8.6
		Median (IQR)	15 (10-21)
	Worked in an obesity service in a country different to where you currently practice?	Yes	30 (25.2%)
		No	89 (74.8%)
	Number of patients treated for obesity each year	Total	56 698
		Mean ± SD	525 ± 666
		Median (IQR)	300 (150–500)

(*Continues*)

Table 1
(Continued).

	Demographic		Number (%)
Patient panel	Sample size		88
	Country	Ireland	69 (78.4%)
		United Kingdom	10 (11.4%)
		Denmark	2 (2.3%)
		Iceland	2 (2.3%)
		Hungary	1 (1.1%)
		Romania	1 (1.1%)
		Poland	1 (1.1%)
		Sweden	1 (1.1%)
		Italy	1 (1.1%)

Regulation

Seventeen questions were asked regarding the regulation of BMS abroad. Fifteen statements reached consensus (Table 2, 12 Grade A, 2 Grade B, 1 Grade C). Panelists agreed that in the context of BMT, BMS should only be performed by surgeons who are nationally or internationally accredited to perform the procedure (Grade A R1). Panelists also agreed that BMS should be performed by bariatric surgeons, completing at least 50 procedures per year (Grade B R3) and that the institution should undertake at least 100 surgeries per year overall (Grade C R3). Regarding monitoring of BMT, panelists agreed that a European-level risk registry would be beneficial to track instances of inadequate care and patient safety issues following BMT (Grade A R1). There was agreement that a European-level risk registry would be beneficial to track cost-savings and efficiencies across the region (Grade A R2). Table 2 provided all statements regarding regulation.

Provision of care

Seventeen questions were asked regarding the provision of care; all reached Grade A consensus. Panelists agreed that patients should be selected based on an MDT assessment (Grade A R2) and that following BMS abroad, bariatric follow-up should be provided for 2 years by the unit performing the surgery (Grade A R3) and that. Both panels agreed that when there is a language mismatch between the HCP and patient that an independent translator should be provided (HCP panel: Grade A R1, Patient: Grade A R1). HCPs agreed that an upper GI Endoscopy should be performed before BMS abroad (Grade A R3). Panelists also agreed that patients who are of female biological sex and child-bearing potential should have a pregnancy test before surgery (Grade A R1) and be counseled regarding the risks of pregnancy following BMS (Grade A R1). Before BMS abroad, patients should: (1) undergo an alcohol intake assessment (Grade A R2); (2) have a full biochemistry blood panel (Grade A R2); (3) be counseled regarding the optimal post-operative nutritional supplementation regimen (Grade A R1); and (4) be aware of the post-operative complications that can occur due to inadequate micronutrient supplement adherence (Grade A R2). Table 3 provides all statements regarding the provision of care.

Eligibility criteria for BMS

Eleven questions were asked regarding the eligibility assessment for BMS abroad, and nine reached consensus (4 Grade A, 3 Grade B, 2 Grade C). HCPs agreed that patients with a body mass index (BMI) <30 (Grade A R2) and a BMI >60 (Grade C R3) should not be considered for BMS abroad. They did not agree on whether patients with obesity Class 1 and associated diseases should be offered BMS abroad (No Consensus R3). Panelists agreed that patients >65 years old should not undergo BMS abroad and should be directed to local services (Grade C R3). They also agreed that patients with significant functional impairment should not be considered for BMS abroad (Grade B R3). Panelists agreed that the patient's medical records should be assessed for medical history (Grade A R3) and cardiovascular disease history (Grade A R3) before BMS abroad. Table 4 provides all statements regarding eligibility for BMS.

Psychological health: 74% (n = 88) of panelists had expertise to answer statements regarding psychological assessment. Six questions were asked, and all reached Grade A consensus. Panelists agreed that patients should be psychologically screened before BMS abroad (Grade A R1) and that if there is significant psychological risk detected through screening (i.e., PHQ-9 15), they should be assessed by a suitably trained psychologist and/or psychiatrist to ensure psychological readiness for BMS (Grade A R1). Table 4 provides all statements regarding psychological assessment.

Dietetic assessment: 84.9% (n = 101) of panelists had expertise to answer statements regarding dietetic assessment. Five questions were asked, and all reached Grade A consensus (Table 4). Panelists agreed that when patients undergo BMS abroad, they should be: (1) screened by a suitably trained dietitian before BMS (Grade A R1); (2) screened and treated for nutritional deficiencies (Grade A R1); (3) advised on the need for life-long micronutrient supplementation and given guidance on appropriate regimens (Grade A R1), and (4) given guidance on eating behaviors required following BMS (Grade A R1). Patients also agreed that patients must be provided with information regarding nutritional supplements required following BMS (Grade A R1).

Sleep apnea assessment: 73.1% (N = 87) of panelists had expertise to answer statements regarding sleep apnea assessment. Four questions were asked, and three reached consensus (Table 4; 2 Grade A, 1 Grade C). Panelists agreed that patients should be screened for sleep apnea (Grade A R2) and, if deemed to be high-risk through screening, should undergo appropriate diagnostic tests and be established on treatment before BMS abroad (Grade A R1). They agreed that patients with uncontrolled moderate to severe obstructive sleep apnea (OSA) should not undergo BMS abroad (Grade C R3); however, there was no agreement on whether obesity hypoventilation syndrome is a contraindication to BMS abroad (No Consensus R3).

Cardiovascular disease assessment: 63.0% (n = 75) of panelists had the expertise to answer statements regarding cardiovascular disease (CVD) assessment. Five questions were asked, and all reached consensus (Table 4; 4 Grade A, 1 Grade B). Panelists agreed that patients should be screened for CVD (Grade A R2) and that if they are deemed high risk, they should have an echocardiogram, at a minimum, before BMS (Grade A R1). They also agreed that those at high risk for CVD should be evaluated by a cardiologist (Grade A R3) and anesthetist

Table 2

Regulation of bariatric surgery tourism

Q	*Question*	Agreement (%)	Consensus
Q1.	*Bariatric and metabolic surgery in Europe should only be performed at centers of obesity management which are accredited by either EASO (The European Association for the Study of Obesity) or the country's representative national Bariatric and Metabolic surgery (BMS) society or Surgical society.*	91.5%	Grade A (R1)
Q2.	*Bariatric and metabolic surgery should only be undertaken by surgeons that have national or international accreditation to perform the procedure.*	93.3%	Grade A (R1)
Q3.	*All staff (i.e., bariatric surgeons, dietitians, endocrinologists, psychologists) involved in the care of patients undergoing bariatric surgery abroad should be appropriately trained and certified to deliver the care.*	98.8%	Grade A (R2)
Q4.	*Only surgical procedures/methods which are accredited by either IFSO (International Federation for the Surgery of Obesity and Metabolic Disorders) or a National Bariatric and Metabolic Surgery society, which regularly evaluates surgical procedures, should be performed in the context of surgical tourism.*	94.0%	Grade A (R1)
Q5.	*Bariatric and metabolic surgical procedures in the stages of research development should not be performed in the context of medical tourism.*	92.2%	Grade A (R1)
Q6.	*The indication for bariatric and metabolic surgery in any country should follow IFSO (International Federation for the Surgery of Obesity and Metabolic Disorders) guidelines if no national guidelines are available.*	97.5%	Grade A (R1)
Q7.	*Bariatric and metabolic surgery should only be performed by surgeons who complete at least 50 procedures per year.*	85.1%	Grade B (R3)
Q8.	*Bariatric and metabolic surgery should only be performed by surgeons who complete at least 100 procedures per year.*	53.9%	No consensus (R2)
Q9.	*Bariatric and metabolic surgery should only be provided in private practice when both the lead surgeon and assistant surgeon are trained and certified in bariatric and metabolic surgery.*	85.1%	Grade B (R3)
Q11.	*Bariatric and metabolic surgery should only be undertaken at institutions which conduct at least 100 surgeries per year overall.*	79.8%	Grade C (R3)
Q10.	*Bariatric and metabolic surgery should only be undertaken at institutions which conduct at least 200 surgeries per year overall.*	40.8%	No consensus (R2)
Q12.	*A European-level risk registry would be beneficial to track instances of inadequate care and patient safety issues following bariatric and metabolic surgery tourism.*	92.7%	Grade A (R1)
Q13.	*Bariatric and metabolic surgery tourism should be regulated at a National and European Level.*	95.1%	Grade A (R2)
Q14.	*Bariatric and metabolic surgeries should be recorded in a national registry in the country where the procedure is performed, when a national registry exists within the country.*	96.6%	Grade A (R1)
Q15.	*Bariatric and metabolic surgeries should be recorded in a national registry in the home country that the patient returns to following the procedure, if allowed by the home country's regulations and the details of the surgery are clear from medical documentation.*	94.6%	Grade A (R3)
Q16.	*A European-level risk registry would be beneficial to track instances of cost-savings and efficiencies across the region.*	94.9%	Grade A (R2)
Q17.	*The causes of bariatric and metabolic surgery tourism should be researched.*	90.1%	Grade A (R2)

All questions were regarding bariatric and metabolic surgery tourism. All participants answered these statements. Round 1 n = 119; Round 2 n = 82; Round 3 n = 94. R1 = Round 1; R2 = Round 2; R3 = Round 3; n = number

(Grade A R2) before BMS abroad. Panelists agreed that patients with type 2 diabetes mellitus (T2DM) should be considered for cardiology investigations to rule out silent coronary heart disease before BMS abroad (Grade B R3).

Liver assessment: 58.8% (n = 70) of panelists had expertise to answer statements regarding liver assessment. Three questions were asked, and all reached consensus (Table 4; 2 Grade A, 1 Grade C). Panelists agreed that patients should have a FIB-4 score or fibroscan to screen for liver fibrosis before BMS abroad (Grade C R3). They also agreed that patients with Child-Pugh Class B or C liver disease (Grade A R3) or a history of esophageal varices (Grade A R2) should not be considered for BMS abroad.

Operative care questions

52.9% (n = 63) of the HCP panel were bariatric surgeons and provided input regarding operative care. Panelists agreed that in the context of BMT, pharmacological thromboprophylaxis should begin the day before surgery or at induction of anesthesia unless contraindicated (Grade C R3). Consensus was reached that thromboprophylaxis should be continued for up to 4 weeks following BMS abroad, dependent on clinical and surgical factors (Grade C R3) and that thromboprophylaxis should be weight-adapted (Grade B R3).

Panelists agreed that proton pump inhibitors (PPIs) should be continued for at least 1 month (Grade B R3) and up to 6 months following BMS abroad, depending on the procedure and risks (Grade C R3). There was no agreement on whether ursodeoxycholic acid should be given following BMS abroad (No Consensus R3).

Panelists were asked whether patients should stay in the location of the BMS for 5, 7, or 10 days following the procedure. Panelists agreed that patients should stay in the geographical location of the surgery for 5 days (Grade B R3) and 7 days (Grade C R3). More panelists agreed with the 5-day minimum. Panelists agreed that when patients have significant complications following BMS abroad, they should only be cleared to travel home by their treating bariatric surgical team once these have been addressed (Grade A R2). Both panels agreed that the bariatric surgeon should liaise with the patient's doctor in their home country to facilitate follow-up (HCP: Grade A R2, Patient: Grade B R2).

Both HCPs and expert patients agreed that the bariatric surgeon should provide all relevant documentation for the patient's ongoing care in their home country (HCP & Patient: Grade A R1, Table 7). Panelists agreed that patients should be screened for symptomatic gallstone disease before BMS abroad (Grade B R3) and that if present they should have a cholecystectomy

Table 3

Provision of care

Q	*Question*	Agreement (%)	Consensus
Q1.	*In the context of surgical tourism, bariatric follow up should be provided for 2 years by the unit performing the surgery.*	92.4%	Grade A (R3)
Q2.	*Prior to bariatric surgery, patients should be provided with clear information about the risks and benefits of the surgery including the increased risk of having this surgery away from home, before travelling abroad.*	95.8%	Grade A (R1)
Q3.	*Patients should have written and verbal consent taken prior to bariatric and metabolic surgery.*	97.5%	Grade A (R1)
Q4.	*Patients undergoing bariatric surgery abroad should be selected for surgery based on a multidisciplinary team's assessment.*	95.1%	Grade A (R2)
Q5.	*Patients should be provided with an independent translator for all conversations where there is a language mismatch between the health care professional (i.e., bariatric surgeon, dietitian, psychologist) and the patient.*	91.5%	Grade A (R1)
Q6.	*Patients should have an upper gastrointestinal endoscopy prior to proceeding with bariatric and metabolic surgery.*	91.0%	Grade A (R3)
Q7.	*Patients who are of female biological sex and child-bearing potential should have a urine or serum pregnancy test, at a minimum, in the days prior to proceeding with bariatric and metabolic surgery.*	95.1%	Grade A (R1)
Q8.	*Patients who are of female biological sex and child-bearing potential should have counseling regarding the risks of pregnancy in the 18 months following bariatric and metabolic surgery.*	97.5%	Grade A (R1)
Q9.	*Patients should undergo alcohol intake assessment through a suitable validated questionnaire (i.e., AUDIT-C) or by a health care professional prior to proceeding with bariatric and metabolic surgery.*	95.0%	Grade A (R2)
Q10.	*Patients should be advised on the need to limit post-operative alcohol intake prior to proceeding with bariatric and metabolic surgery.*	98.3%	Grade A (R1)
Q11.	*Patients should be advised on the need to limit pre-operative alcohol intake prior to proceeding with bariatric and metabolic surgery.*	98.8%	Grade A (R2)
Q12.	*Patients should be advised on cessation of smoking prior to bariatric and metabolic surgery.*	97.4%	Grade A (R1)
Q13.	*Patients should be asked about recreational drug use before proceeding with bariatric and metabolic surgery.*	97.5%	Grade A (R2)
Q14.	*Patients should have a biochemistry assessment (including, full blood count, renal profile, liver function tests, glucose, HbA1c, lipid profile, thyroid function test, Calcium profile, Vitamin B12, Vitamin D, iron studies and Parathyroid Hormone) prior to proceeding with bariatric and metabolic surgery.*	97.6%	Grade A (R2)
Q15.	*Prior to bariatric and metabolic surgery, patients should be counseled regarding the optimal post-operative nutritional supplementation based on their surgical procedure.*	100%	Grade A (R1)
Q16.	*Patients should be aware of the post-operative complications which can occur due to inadequate micronutrient supplement adherence prior to proceeding with bariatric and metabolic surgery.*	100.0%	Grade A (R2)
Q17.	*Patients should be advised about the risk of taking NSAIDs (Non-steroidal anti-inflammatory drugs) post-operatively, prior to proceeding with bariatric and metabolic surgery.*	97.5%	Grade A (R2)

All questions were regarding bariatric and metabolic surgery tourism. All participants answered these statements. Round 1 n = 119; Round 2 n = 82; Round 3 n = 94. R1 = Round 1; R2 = Round 2; R3 = Round 3; n = number

performed before or at the same time as BMS (Grade C R3). Table 5 provides all recommendations for operative care.

Advertising and online information

Panelists agreed that bariatric centers should not use targeted social media campaigns to identify potential patients for BMS abroad (Grade B R3). Both Panels agreed that when special offers or discounted rates are offered, this raises concern regarding the quality of care provided (HCP: Grade A R3, Patient: Grade A R1). Panelists agreed that social media platforms should not allow advertising of bariatric surgery by centers that are not approved/accredited by relevant international organizations, i.e., IFSO/EASO (Grade A R2). Table 6 provides all recommendations for advertising and online information.

Sensitivity analysis

A sensitivity analysis of Round 1 responses from the healthcare professional panel was conducted on 10 statements that did not achieve consensus (Supplemental Digital Content, available at: http://links.lww.com/JS9/D592). Regional differences were apparent among the responses. Surgeons from Middle and Southern Europe were more inclined to recommend initiating pharmacological thromboprophylaxis the day before surgery. Surgeons from Middle Europe were also more likely to recommend a 6-month regimen of Proton Pump Inhibitors (PPI). In contrast, surgeons from Northern Europe were less likely to recommend a 6-month course of Ursodeoxycholic acid (Ursofalk) following bariatric surgery. With respect to professional backgrounds, dietitians and endocrinologists generally demonstrated a higher degree of agreement compared to surgeons.

Discussion

We conducted a modified Delphi consensus project regarding BMT in Europe. This project analyzed 135 statements and recruited 207 participants from 26 countries across two panels, with 126 statements reaching consensus. Our consensus recommendations include pre-operative, peri-operative, and post-operative care. Consensus was reached regarding the necessity for pre-operative evaluation of psychological health, sleep apnea, CVD, liver health and dietetic assessment. We also recommend regulatory standards, including surgeon accreditation and procedural volume. Finally, we recommend patient education, standardized surgical care, online information, and comprehensive follow-up. There is limited data on outcomes from BMT; these consensus recommendations provide guidelines for HCPs while more quantitative data is gathered to inform clinical practice.

Our Delphi study is the first international consensus project on BMT. There has only been one National Delphi study on BMT within Mexico. This study recruited 32 bariatric surgeons and included 52 items; in comparison, we recruited 207 participants from various disciplines and 135 items[9]. Previous data

Table 4

Eligibility for bariatric surgery abroad

Sub-section	Q	*Question*	Agreement (%)	Consensus
General eligibility	Q1.	*In the context of medical tourism, patients with BMI >60 kg/m^2 should not undergo bariatric and metabolic surgery.*	79.1%	Grade C (R3)
	Q2.	*In the context of medical tourism, patients with BMI <30 kg/m^2 should not undergo bariatric and metabolic surgery.*	91.4%	Grade A (R2)
	Q3.	*In the context of medical tourism, patients aged >65 years old should not be considered for bariatric and metabolic surgery and instead should be directed toward bariatric services within their home country.*	74.7%	Grade C (R3)
	Q4.	*In the context of medical tourism, patients with significant functional impairment (i.e., severe pain or dyspnea that requires use of a wheelchair) should not be considered for bariatric and metabolic surgery.*	80.2%	Grade B (R3)
	Q5.	*In the context of medical tourism, only patients with ASA grade ≤4 should undergo bariatric and metabolic surgery at accredited centers.*	84.1%	Grade B (R3)
	Q6.	*In the context of medical tourism, patients with active malignancy should not be considered for bariatric and metabolic surgery.*	95.1%	Grade A (R2)
	Q7.	*Patients undergoing bariatric surgery abroad should be assessed for signs of hypercortisolism.*	68.2%	No consensus
	Q8.	*Patients undergoing bariatric surgery abroad with signs of hypercortisolism should undergo an overnight dexamethasone suppression test to exclude Cushing's Syndrome prior to surgery.*	83.3%	Grade B (R3)
	Q9.	*A copy of the patient's medical records, from the patient's home country, should be assessed for the medical history, prior to proceeding with bariatric surgery abroad.*	94.6%	Grade A (R3)
	Q10.	*A copy of the patient's medical records, from the patient's home country, should be assessed for the patient's cardiovascular disease history, prior to proceeding with bariatric surgery abroad.*	93.5%	Grade A (R3)
	Q11.	*In patients with obesity class 1 and associated diseases (i.e., Type 2 Diabetes, MASLD, Obstructive Sleep Apnea), tourism for bariatric and metabolic surgery should not be offered.*	66.7%	No consensus (R3)
Psychological assessment	Q12.	*Patients should undergo psychological health screening prior to proceeding with bariatric and metabolic surgery.*	98.9%	Grade A (R1)
	Q13.	*If significant psychological risk is detected through psychological health screening (i.e., PHQ-9 > 15, history of disordered eating, psychological diagnosis), patients should be assessed by a suitably trained psychologist and/or psychiatrist, to ensure psychological readiness for bariatric and metabolic surgery.*	100%	Grade A (R1)
	Q14.	*Patients with a history of untreated bulimia nervosa or anorexia nervosa should not be considered for bariatric and metabolic surgery.*	95.2%	Grade A (R2)
	Q15.	*In the context of medical tourism, patients with active suicidal ideation or previous high-risk suicide attempt, should not be considered for bariatric and metabolic surgery.*	94.3%	Grade A (R1)
	Q16.	*In the context of medical tourism, patients with significant cognitive impairment should not be considered for bariatric and metabolic surgery.*	90.3%	Grade A (R2)
	Q17.	*In the context of medical tourism, patients with a history of severe psychiatric diagnosis (i.e., schizophrenia, bipolar disorder, major depressive episode within the last 12 months requiring hospitalization) and without at least 12 months of mental health stability should not be considered for bariatric and metabolic surgery.*	95.2%	Grade A (R2)
Dietetic assessment	Q18.	*Patients should be assessed by a suitably trained registered dietitian prior to proceeding with bariatric and metabolic surgery.*	97.0%	Grade A (R1)
	Q19.	*Patients should be screened for nutritional deficiencies, including protein malnutrition, Iron, Vitamin D, Vitamin B12, and Folate, and if present these deficiencies should be corrected prior to bariatric and metabolic surgery.*	97.0%	Grade A (R1)
	Q20.	*Patients should be advised on the need for life-long micronutrient supplementation and given guidance on appropriate vitamin and mineral regimens to meet requirements, following bariatric and metabolic surgery.*	100.0%	Grade A (R1)
	Q21.	*Patients should be given verbal and written guidance on eating behaviors that maximize nutrient intake, and minimize gastrointestinal difficulties, following bariatric and metabolic surgery.*	100.0%	Grade A (R1)
	Q22.	*Patients should have a good understanding of the necessary post-operative lifestyle and eating behavior changes, prior to consenting to and proceeding with bariatric and metabolic surgery.*	99.0%	Grade A (R1)
Sleep apnea assessment	Q23.	*Patients should be screened for obstructive sleep apnea, with a suitable validated questionnaire (i.e., STOP-BANG or Epworth Sleepiness Scale) or by a health care professional, prior to proceeding with bariatric and metabolic surgery.*	92.8%	Grade A (R2)
	Q24.	*Patients deemed high risk for obstructive sleep apnea via screening should undergo appropriate diagnostic tests and, if appropriate, be established on appropriate sleep apnea treatment, before proceeding with bariatric and metabolic surgery.*	97.7%	Grade A (R1)
	Q25.	*In the context of medical tourism, patients with uncontrolled moderate to severe obstructive sleep apnea (i.e., not established on appropriate treatment), should not be considered for bariatric and metabolic surgery.*	77.8%	Grade C (R3)
	Q26.	*In the context of medical tourism, patients with obesity hypoventilation syndrome should not be considered for bariatric and metabolic surgery.*	44.8%	No consensus
Cardiovascular assessment	Q27.	*Patients should be screened for cardiovascular disease prior to proceeding with bariatric and metabolic surgery.*	92.9%	Grade A (R2)
	Q28.	*Patients at high risk of cardiovascular disease, should have an echocardiogram at a minimum prior to proceeding with bariatric and metabolic surgery.*	91.5%	Grade A (R1)
	Q29.	*Patients at high risk of cardiovascular disease should be evaluated by a cardiologist prior to proceeding with bariatric and metabolic surgery.*	92.4%	Grade A (R3)
	Q30.	*Patients at high risk of cardiovascular disease should be evaluated by an anesthetist prior to proceeding with bariatric and metabolic surgery.*	98.2%	Grade A (R2)

(*Continues*)

Table 4
(Continued).

Sub-section	Q	*Question*	Agreement (%)	Consensus
	Q31.	*Patients with Type 2 Diabetes Mellitus should be considered for cardiological investigations to rule out silent coronary heart disease prior to proceeding with bariatric and metabolic surgery.*	81.3%	Grade B (R3)
Liver assessment	Q32.	*Patients should have a FIB-4 score or fibroscan to screen for liver fibrosis prior to proceeding with bariatric and metabolic surgery.*	71.4%	Grade C (R3)
	Q33.	*In the context of medical tourism, patients with Child-Pugh Class B or C Chronic Liver Disease should not be considered for bariatric and metabolic surgery.*	95.0%	Grade A (R3)
	Q34.	*In the context of medical tourism, patients with a history of esophageal varices should not be considered for bariatric and metabolic surgery.*	96.6%	Grade A (R2)

All questions were regarding bariatric and metabolic surgery tourism. All participants answered general eligibility subsection (Retention: Round 1 n = 119; Round 2 n = 82; Round 3 n = 94). N = 88 answered questions regarding psychological assessment (Retention Round 1 n = 88; Round 2 n = 62). N = 101 answered questions regarding dietetic assessment (Retention Round 1 n = 101; no further rounds). N = 87 answered questions regarding sleep apnea assessment (Retention: Round 1 n = 87; Round 2 n = 69; Round 3 n = 73). N = 75 answered questions regarding CVD assessment (Retention: Round 1 n = 75; Round 2 n = 57; Round 3 n = 66). N = 70 answered questions regarding liver assessment (Retention: Round 1 n = 70; Round 2 n = 68; Round 3 n = 63)
R1 = Round 1; R2 = Round 2; R3 = Round 3; n = number

has highlighted the risks of surgical tourism. Research from Canada showed the complication rate for BMS tourists was 42.2-56.1% compared to the 12.3% complication rate for locally operated patients[14,15]. In comparison, there are instances when travelling for BMS is safe and effective. A retrospective cohort study in the USA compared the outcomes of local versus destination BMS (driving time >2 hours from the bariatric center) at accredited centers. The study found no significant difference in patient outcomes or complication rates between groups 30 days following surgery. Notably, all centers were accredited and provided comprehensive pre- and post-operative care, ensured effective communication with local HCPs and required patients to stay in a local hotel for 1 week post-operatively. However, the findings of this study may not be generalizable to international settings, particularly where post-operative travel involves flying, which presents additional risks[16]. Regarding Europe, there is currently no published data evaluating the outcomes following bariatric tourism. Overall, quantitative European data is required.

We recommend multiple aspects in providing bariatric surgical care abroad, aligning with international standards. Surgical units should provide at least 2 years of follow-up, in line with published literature[17]. The MDT is central to bariatric care; we recommend MDT assessment for all patients undergoing BMS abroad[18,19]. We recommend an upper gastrointestinal endoscopic evaluation before BMS, as a recent study shows patients undergoing BMS have various endoscopic pathologies, potentially impacting procedure choice[20]. For lifestyle, we recommend pre-operative alcohol screening and counseling on limiting alcohol intake pre- and post-operatively due to the increased risk of alcohol use problems following BMS[21].

Our Delphi consensus statement delineates several strategies to improve patient safety in the context of bariatric tourism. We recommend 2-year post-operative follow-up provided by the surgical unit performing the procedure. Additionally, we emphasize the importance of patient education on post-operative complications, including the risks with inadequate micronutrient supplementation and the use of non-steroidal anti-inflammatory drugs (NSAIDs). We also advise on the appropriate duration of thromboprophylaxis and proton pump inhibitors (PPIs) following surgery. We recommend that patients remain in the vicinity of the surgical facility for at least 5 days post-operation, given the potential risk associated with early travel post-surgery . These measures are supported by a thorough pre-operative evaluation aimed at minimizing peri- and post-operative risks. Finally, although not assessed in the Delphi, future research could also establish whether recording of surgical videos (given advancements in laparoscopic surgery) could be a method to ensure and assess surgical quality. These methods together with others in our manuscript priorities patient safety.

Our Delphi consensus also recommends several regulatory standards to improve patient safety. We recommend accreditation of the centers, surgeons, and their surgical methods. Additionally, the regulation of bariatric tourism should be at both national and European levels to maintain consistency. We also recommend that, potentially, a European-level risk registry, would be helpful to track patient outcomes and highlight any patient safety risks in bariatric tourism. Lastly, we recommend the importance of providing patients with detailed, accessible online information, facilitating informed and safer decision making.

A comprehensive evaluation of patients considered for BMS is crucial. Although BMS has substantial long-term benefits for T2DM, Metabolic-Associated Steatotic Liver Disease (MASLD)[22], cardiovascular health and mortality, there are risks[23]. The perioperative mortality rate is 0.03% to 0.2%, but it was higher before modern bariatric care[24]. Post-operative severe adverse events include hemorrhage, venous thromboembolism and anastomotic leak[25]. We recommend that only patients with a BMI of 30-60 kg/m^2 are considered for BMS abroad. While guidelines allow BMS for BMI 30-35 kg/m^2 with an obesity-related complication[26,27], our panel disagrees in the context of BMT. Non-surgical options, like obesity pharmacotherapy, may be the most appropriate initial management in this group[28,29]. Panelists also agreed that patients >65 years old or with significant functional impairment should not be considered for BMS abroad. This may relate to increased risk of sarcopenic obesity (obesity with loss of muscle mass) in these groups, which may increase post-operative risks[30,31]. Local specialized obesity management services should provide access to care for these patients.

There was consensus on assessment of psychological health, dietetics, sleep apnea, CVD and liver health. Although BMS is associated with improving anxiety and depression[32,33], it is also linked to suicide and self-harm[34]. We recommend rigorous psychological screening for patients accessing BMT and

Table 5

Operative care

Q	*Question*	Agreement (%)	Consensus
Q1.	*Patients should have a prescription of pharmacological thromboprophylaxis to begin the day prior to surgery or thromboprophylaxis at the induction of anesthesia when undergoing bariatric and metabolic surgery, unless contraindicated.*	73.7%	Grade C (R3)
Q2.	*Patients should have pharmacological thromboprophylaxis for up to 1 week following bariatric and metabolic surgery.*	46.0%	No consensus (R2)
Q3.	*Patients should have pharmacological thromboprophylaxis for up to 2 weeks following bariatric and metabolic surgery.*	36.7%	No consensus (R2)
Q4.	*Patients should have pharmacological thromboprophylaxis for up to 4 weeks following bariatric and metabolic surgery abroad, dependent on clinical and surgical factors.*	72.4%	Grade C (R3)
Q5.	*Pharmacological thromboprophylaxis should be weight adapted for patients undergoing bariatric and metabolic surgery.*	80.7%	Grade B (R3)
Q6.	*Patients should receive peri-operative prophylactic antibiotics when undergoing bariatric and metabolic surgery.*	98.0%	Grade A (R2)
Q7.	*Patients should receive a Proton Pump Inhibitor for at least 1 month following bariatric and metabolic surgery.*	87.7%	Grade B (R3)
Q8.	*Patients should receive a Proton Pump Inhibitor for up to 6 months following bariatric and metabolic surgery, depending on the procedure and risks (i.e., smoking).*	75.0%	Grade C (R3)
Q9.	*Patients with a gallbladder and without pre-operative gallstones as determined by ultrasound evaluation should be provided with 6 months of ursodeoxycholic acid (i.e., Ursofalk) following bariatric and metabolic surgery*	55.4%	No consensus (R3)
Q10.	*Patients should be advised on the changes in the absorption of some medications (i.e., anti-epileptics, anticoagulants, psychotropic medications) following bariatric and metabolic surgery.*	100.0%	Grade A (R1)
Q11.	*In the context of medical tourism, patients should stay at least 5 days post-operatively in the geographical location of the bariatric and metabolic surgery before travelling home.*	89.5%	Grade B (R3)
Q13.	*In the context of medical tourism, patients should stay at least 7 days post-operatively in the geographical location of the bariatric and metabolic surgery before travelling home.*	78.9%	Grade C (R3)
Q14.	*In the context of medical tourism, patients should stay at least 10 days post-operatively in the geographical location of the bariatric and metabolic surgery before travelling home.*	45.5%	No consensus (R2)
Q15.	*In the context of medical tourism, when patients have significant complications following bariatric and metabolic surgery, they should only be cleared to travel home by their treating bariatric surgical team once these have been addressed.*	96.0%	Grade A (R2)
Q16.	*In the context of medical tourism, when patients have significant complications following bariatric and metabolic surgery, the treating bariatric surgeon should liaise with a bariatric surgeon in the patient's home country to arrange ongoing care.*	91.7%	Grade A (R2)
Q17.	*In the context of medical tourism, the operating bariatric surgeon should liaise with the patient's treating doctor/general practitioner in their home country to facilitate follow-up.*	100.0%	Grade A (R2)
Q18.	*In the context of medical tourism, the treating bariatric surgical team should provide sufficient supply for at least 3 months of nutritional supplementation in the post-operative period.*	82.5%	Grade B (R3)
Q19.	*In the context of medical tourism, the treating bariatric surgical team should provide clear written information regarding the requirements for long-term nutritional supplementation.*	100.0%	Grade A (R2)
Q20.	*In the context of medical tourism, the bariatric surgeon should provide medical documentation, a copy of operative notes and a discharge summary to facilitate the patient's ongoing care in their home country.*	100.0%	Grade A (R1)
Q21.	*The bariatric team must use methods known to prevent harm from an aesthetic administration, whilst protecting the patient from pain.*	96.8%	Grade A (R1)
Q22.	*The bariatric team must recognize and effectively prepare for life-threatening loss of airway or respiratory function.*	100.0%	Grade A (R1)
Q23.	*The bariatric team must recognize and effectively prepare for high risk of blood loss.*	96.8%	Grade A (R1)
Q24.	*The bariatric team must avoid inducing an allergic or adverse drug reaction for which the patient is known to be at significant risk.*	100.0%	Grade A (R1)
Q25.	*The bariatric team must use consistent methods known to minimize the risk of surgical site infection.*	100.0%	Grade A (R1)
Q26.	*The bariatric team must prevent inadvertent retention of instruments and sponges in surgical wounds.*	100.0%	Grade A (R1)
Q27.	*The bariatric team must use the World Health Organization (WHO) surgical safety checklist.*	93.3%	Grade A (R1)
Q28.	*The bariatric team must use a validated risk stratification tool to supplement clinical assessment when planning bariatric and metabolic surgery. This should then be discussed with the patient to allow for informed shared decision-making.*	94.5%	Grade A (R3)
Q29.	*The bariatric team must discuss options for post-operative pain management with patients prior to surgery.*	90.3%	Grade A (R1)
Q30.	*Patients should be screened for symptomatic gallstone disease prior to proceeding with bariatric surgery abroad.*	82.%	Grade B (R3)
Q31.	*Patients with symptomatic gallstone disease should have a cholecystectomy performed prior to or at the same time as bariatric and metabolic surgery.*	77.6%	Grade C (R3)

All questions were regarding bariatric and metabolic surgery tourism. 63 bariatric surgeons answered these statements. Round 1 n = 63; Round 2 n = 50; Round 3 n = 58. R1 = Round 1; R2 = Round 2; R3 = Round 3; n = number

excluding those with severe psychiatric conditions[33]. Furthermore, post-operative changes in medication absorption, i.e., antipsychotics and mood stabilizers, may require psychiatrist input[35,36]. There is also a risk of contributing to mental health deterioration, which, in the case of serious mental illness, can be life-limiting[34].

Regarding dietetic assessment, BMS can cause long-term nutritional deficiencies without appropriate micronutrient regimens[37,38]. We recommend that patients be screened and treated for nutrient deficiencies before surgery, educated on nutritional requirements and regimens and risks of non-adherence, and potentially supplied with an initial micronutrient regimen. Pre-operative correction of deficiencies and patient education pre- and post-operatively may improve outcomes[39].

Patients undergoing BMS with OSA are at elevated risk of post-operative complications, including reintubation and

Table 6

Advertising and online information

Q	*Question*	Agreement (%)	Consensus
Q1.	*Bariatric centers should not use targeted social media campaigns to identify potential patients.*	85.4%	Grade B (R3)
Q2.	*When discounted rates or special offers for bariatric and metabolic surgery are offered by bariatric centers, this raises concern about the quality of the care provided.*	92.1%	Grade A (R3)
Q3.	*Social media platforms should not allow advertising of bariatric surgery by centers that are not approved/accredited by relevant international organizations (i.e., EASO/IFSO).*	92.7%	Grade A (R2)
Q4.	*Bariatric centers should provide publicly available information regarding the volume and type of surgeries performed at their site.*	94.8%	Grade A (R1)
Q5.	*Bariatric centers should provide publicly available information regarding the qualifying criteria (i.e., BMI) to undergo bariatric surgery.*	94.1%	Grade A (R1)
Q6.	*Bariatric centers should provide publicly available information regarding the financial cost and required payment methods for bariatric surgery at their site.*	96.3%	Grade A (R2)
Q7.	*Bariatric centers should provide publicly available information regarding the surgical procedures provided and whether these are internationally accredited procedures.*	97.5%	Grade A (R1)
Q8.	*Bariatric centers should provide publicly available information regarding the type, frequency and intensity of follow-up, and what health care professional this is provided by, following bariatric surgery.*	99.2%	Grade A (R1)
Q9.	*Bariatric centers should provide publicly available information regarding the benefits and risks of the bariatric surgeries provided at their center.*	99.1%	Grade A (R1)
Q10.	*Bariatric centers should provide publicly available information regarding the type of accreditation their surgeons have (i.e., international or national accreditation and what institution has awarded it).*	94.7%	Grade A (R1)

All questions were regarding bariatric and metabolic surgery tourism. All participants answered these statements. Round 1 n = 119; Round 2 n = 82; Round 3 n = 94. R1 = Round 1; R2 = Round 2; R3 = Round 3; n = number

cardiovascular complications[40,41]. Panelists agreed on the need for sleep apnea screening and treatment before BMS abroad. Although BMS is associated with a reduced risk of CVD long-term[42-44], peri-operative major adverse cardiac events are more common in those with CVD[45]. We recommend pre-operative cardiovascular screening, echocardiography for high-risk patients and consideration of cardiology investigations for those with T2DM. Whilst BMS treats MASLD[22,46], complication rates are higher in patients with liver cirrhosis, and esophageal varices are a surgical contraindication[47,48]. We recommend liver fibrosis screening and exclusion of patients with advanced liver disease or esophageal varices in BMT.

Over half of the HCP panelists were bariatric surgeons. Surgeons agreed that patients should stay a minimum of 5 days post-surgically in the location of the procedure, ensuring early complications are managed before travel. The Mexican Delphi recommended a 3-day minimum; however, all surgeons participating were engaged in medical tourism, potentially biasing the findings[9]. Furthermore, depending on clinical factors, we recommend anticoagulation for up to 4 weeks post-procedure. The Mexican Delphi process did not reach a consensus on treatment duration. Our approach considers patient-specific venous thromboembolism and bleeding risks when deciding treatment duration[9]. No consensus was reached on using ursodeoxycholic acid following BMS. This is interesting as ursodeoxycholic acid reduces the risk of gallstone-associated morbidity[49-51]. Finally, we recommend PPI continuation for at least 1 month and up to 6 months, depending on the procedure and risks. This treatment range reflects the variability in practice; with recent data showing considerable differences in PPI treatment duration post-operatively[52].

Going forward, we recommend that further outcome data is acquired to inform future guideline development. For instance, findings from a European-level risk registry could significantly influence evidence-based modifications in both clinical practice and future guidelines. This outcome data could also be used to inform broader policy recommendations at a national and European data. For example, if data reveal that certain practices contribute toward improved outcomes, these practices could be promoted through policy. Overall these quantitative data coupled with our previous Delphi recommendations will inform future guideline and policy recommendations.

Strengths and limitations

This study had several strengths. Firstly, it involved various stakeholders, including HCPs from different disciplines and patient representatives. This broad inclusion enhanced the validity and applicability of the consensus recommendations. Secondly, participants from 24 countries ensured the recommendations considered diverse healthcare systems, making the findings relevant across Europe. Thirdly, we included HCPs from across the MDT, reflecting modern bariatric care as recommended in clinical guidelines. Finally, the study produced detailed consensus statements covering various aspects of BMT. This approach provides clear guidance for improving patient safety and care quality.

This study does have limitations. Firstly, despite the broad geographical inclusion, there was a higher representation of participants from Ireland and the UK in the patient panel. This could introduce a selection bias, potentially limiting the generalizability of the findings to other regions. This may be due to the survey being in English, excluding non-English speakers. Secondly, while the Delphi method is valuable for consensus-building, the recommendations are based on expert opinion rather than empirical data. Thirdly, variability in clinical practices across Europe may challenge uniform implementation of the consensus recommendations. Fourth, we did not collect information from patient representatives regarding whether they had either travelled abroad for bariatric surgery or experienced a post-operative complication, limiting our ability to stratify analysis.

Conclusions

We conducted a modified Delphi consensus project addressing BMT in Europe. This project analyzed 135 statements and

Table 7

Patient representative panel results

Q	*Question*	Agreement (%)	Consensus
Q1.	*Bariatric centers must provide readily available information regarding the surgical procedures provided to patients.*	98.9%	Grade A (R1)
Q2.	*Clear information must be provided to patients regarding the risks and benefits of bariatric surgery abroad.*	98.9%	Grade A (R1)
Q3.	*Patients must be provided with clear information on whether the operating bariatric surgeon is internationally or nationally certified.*	98.9%	Grade A (R1)
Q4.	*Patients must be informed whether the bariatric surgery being offered is internationally recognized.*	98.9%	Grade A (R1)
Q5.	*Patients must be provided with all relevant clinical documentation from their bariatric surgery to allow them to have safe follow up in their home country.*	98.9%	Grade A (R1)
Q6.	*Patients must not be subjected to targeted social media advertising relating to bariatric surgery abroad.*	69.6%	No consensus (R2)
Q7.	*Patients must be provided with nutritional supplements or at a minimum provided with information about what nutritional supplements they require following bariatric surgery abroad.*	97.7%	Grade A (R1)
Q8.	*The patient's bariatric surgeon must communicate with the patients treating doctor in their home country before and after surgery.*	86.2%	Grade B (R2)
Q9.	*Patients must be consented through writing and discussion before undergoing bariatric surgery abroad.*	95.3%	Grade A (R1)
Q10.	*Discussions regarding bariatric surgery must start before the patient travels abroad for surgery.*	96.6%	Grade A (R1)
Q11.	*Patients travelling abroad for bariatric surgery must be protected from harm to their physical and mental health.*	97.7%	Grade A (R1)
Q12.	*Patients travelling abroad for bariatric surgery must have a thorough health assessment by the team providing the care to ensure its safe for them to have surgery.*	98.9%	Grade A (R1)
Q13.	*Patients should be very cautious when a bariatric procedure is provided at discounted rates.*	94.0%	Grade A (R1)
Q14.	*Patients should discuss their plans for bariatric surgery abroad with a doctor in their home country before travelling for the surgery.*	91.4%	Grade A (R2)
Q15.	*Patients and their families must have a clear way to raise concerns regarding the care they have received when undergoing bariatric surgery abroad.*	97.7%	Grade A (R1)
Q16.	*Patients must be provided with a translator if they cannot speak the same language as their bariatric surgeon.*	95.4%	Grade A (R1)
Q17.	*Patients should seek independent advice from another patient that has undergone bariatric surgery at their planned bariatric center, prior to surgery.*	78.2%	Grade C (R2)
Q18.	*Patients must be provided with information about the complication rate of the bariatric surgeon performing their surgery.*	96.5%	Grade A (R1)
Q19.	*Patients should be aware that in some instances bad reviews are removed from certain bariatric surgery clinics.*	97.7%	Grade A (R1)
Q20.	*Patients travelling abroad for bariatric surgery should be provided with pre-operative education, continuity of care and long-term follow-up.*	97.7%	Grade A (R1)
Q21.	*All patients travelling a long distance following surgery should be aware that there is increased risk of blood clots like deep vein thrombosis and pulmonary embolism.*	98.9%	Grade A (R1)
Q22.	*Before travelling abroad for bariatric surgery patients should discuss their plans with their close family and friends.*	67.3%	No consensus (R2)
Q23.	*Patients who are not eligible for bariatric surgery in their home country (i.e., BMI < 30) should not travel abroad for surgery.*	59.3%	No consensus (R2)
Q24.	*Patients travelling abroad for bariatric surgery should wait at least a month between booking the surgery and having the surgery.*	75.0%	Grade C (R2)
Q25.	*Patients travelling abroad for bariatric surgery should travel with another person.*	73.7%	Grade C (R2)
Q26.	*Bariatric surgical tourism is being driven by long waiting lists.*	90.9%	Grade A (R2)

All questions were regarding bariatric and metabolic surgery tourism. Round 1 n = 88; Round 2 n = 58. R1 = Round 1; R2 = Round 2; n = number

recruited 207 participants from 24 countries across two separate panels, with 126 statements reaching consensus. Our recommendations include pre-operative, peri-operative, and post-operative evaluations. Consensus was reached on the necessity for pre-operative evaluation of psychological health, dietetic assessment, sleep apnea, cardiovascular disease and liver health. We recommend additional regulatory standards, including surgeon and center accreditation and procedural volume. Finally, we recommend patient education, standardized surgical care, online information and comprehensive follow-up. Further research should focus on obtaining quantitative outcome data from BMT to inform clinical practice.

Ethics approval

Approved by Kings College London Research Ethics Committee (LRS/DP-23/24-39312).

Consent

Not applicable.

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Author's contribution

All authors made substantial contributions to all of the following: (1) the conception and design of the study, or acquisition of data, or analysis and interpretation of data, (2) drafting the article or revising it critically for important intellectual content, and (3) final approval of the version to be submitted. LJD takes responsibility for the integrity of the work as a whole, from inception to finished article.

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Data availability statement

Data for the project is available upon reasonable request to the corresponding author.

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References

[1] Sjöström L, Narbro K, Sjöström CD, *et al*. Effects of bariatric surgery on mortality in Swedish obese subjects. N Engl J Med 2007;357:741–52.
[2] Adams TD, Gress RE, Smith SC, *et al*. Long-term mortality after gastric bypass surgery. N Engl J Med 2007;357:753–61.
[3] O'Brien PE, Hindle A, Brennan L, *et al*. Long-term outcomes after bariatric surgery: a systematic review and meta-analysis of weight loss at 10 or more years for all bariatric procedures and a single-centre review of 20-year outcomes after adjustable gastric banding. Obes Surg 2019;29:3–14.
[4] NHS Digital. Bariatric surgical procedures, 2021/22. National Obesity Audit 2022;22:1–15.
[5] Desogus D, Menon V, Singhal R, *et al*. An examination of who is eligible and who is receiving bariatric surgery in england: secondary analysis of the health survey for England dataset. Obes Surg 2019;29:3246–51.
[6] Azlan A, Finucane FM, Flaherty GT. Descriptive analysis of international bariatric surgery tourism services. Obes Surg 2023;33:1300–03.
[7] Parmar CD, McCluney SJ, Rodriguez N, *et al*. A global survey by the International Federation for the Surgery of Obesity and Metabolic Disorders (IFSO) on perceptions of Bariatric Medical Tourism (BMT) by health professionals: guidelines from IFSO for BMT. Obes Surg 2021;31:1401–10.
[8] Zuberi S, Egiz A, Iqbal H, *et al*. Characterising barriers and facilitators of metabolic bariatric surgery tourism: a systematic review. Br J Surg 2024;111:1–8.
[9] Rodríguez NR, Cote L, Fuentes C, *et al*. First national consensus on the safe practice of medical tourism for bariatric surgery in Mexico. Obes Surg 2023;33:1060–72.
[10] Bullen NL, Parmar J, Gilbert J, *et al*. How effective is the multidisciplinary team approach in bariatric surgery? Obes Surg 2019;29:3232–38.
[11] Rebibo L, Maréchal V, De Lameth I, *et al*. Compliance with a multidisciplinary team meeting's decision prior to bariatric surgery protects against major postoperative complications. Surg Obes Relat Dis 2017;13:1537–43.
[12] Rubino F, Puhl RM, Cummings DE, *et al*. Joint international consensus statement for ending stigma of obesity. Nat Med 2020;26:485–97.
[13] Ho ISS, Azcoaga-Lorenzo A, Akbari A, *et al*. Measuring multimorbidity in research: Delphi consensus study. BMJ Med 2022;1:e000247.

[14] Sheppard CE, Lester ELW, Chuck AW, *et al*. Medical tourism and bariatric surgery: who pays? Surg Endosc 2014;28:3329–36.
[15] Birch DW, Vu L, Karmali S, *et al*. Medical tourism in bariatric surgery. Am J Surg 2010;199:604–08.
[16] Brackett A, McCarthy E, Ji W, *et al*. Safety and feasibility of destination care for bariatric surgery: a single institution retrospective study. Surg Endosc 2023;37:9609–16.
[17] O'Kane M, Parretti HM, Hughes CA, *et al*. Guidelines for the follow-up of patients undergoing bariatric surgery. Clin Obes 2016;6:210–24.
[18] Bagdade PS, Grothe KB. Psychosocial evaluation, preparation, and follow-up for bariatric surgery patients. Diabetes Spectr 2012;25:211–16.
[19] Dobbie LJ, Coelho C, Crane J, *et al*. Clinical evaluation of patients living with obesity. Intern Emerg Med 2023;18:1273–85.
[20] Moulla Y, Lyros O, Mehdorn M, *et al*. Preoperative upper-GI endoscopy prior to bariatric surgery: essential or optional? Obes Surg 2020;30:2076–84.
[21] Ivezaj V, Benoit SC, Davis J, *et al*. Changes in alcohol use after metabolic and bariatric surgery: predictors and mechanisms. Curr Psychiatry Rep 2019;21:85.
[22] Verrastro O, Panunzi S, Castagneto-Gissey L, *et al*. Bariatric–metabolic surgery versus lifestyle intervention plus best medical care in non-alcoholic steatohepatitis (BRAVES): a multicentre, open-label, randomised trial. Lancet 2023;401:1786–97.
[23] Doumouras AG, Hong D, Lee Y, *et al*. Association between bariatric surgery and all-cause mortality: a population-based matched cohort study in a universal health care system. Ann Intern Med 2020;173:694–703.
[24] American Diabetes Association. Standards of Medical Care in Diabetes-2014. Diabetes Care 2014;37:S14–S80.
[25] Arterburn DE, Telem DA, Kushner RF, *et al*. Benefits and risks of bariatric surgery in adults: a review. JAMA 2020;324:879–87.
[26] Garvey WT, Mechanick JI, Brett EM, *et al*. American association of clinical endocrinologists and American college of endocrinology comprehensive clinical practice guidelines for medical care of patients with obesity: executive summary. Endocr Pract Am Assoc Clin Endocrinol 2016;22:842–84.
[27] Eisenberg D, Shikora SA, Aarts E, *et al*. 2022 American Society for Metabolic and Bariatric Surgery (ASMBS) and International Federation for the Surgery of Obesity and Metabolic Disorders (IFSO): indications for metabolic and bariatric surgery. Surg Obesity Related Dis 2022;18:1345–56.
[28] Wilding JPH, Batterham RL, Calanna S, *et al*. Once-weekly semaglutide in adults with overweight or obesity. N Engl J Med 2021;384: 989–1002.
[29] Jastreboff AM, Aronne LJ, Ahmad NN, *et al*. Tirzepatide once weekly for the treatment of obesity. N Engl J Med 2022;387:205–16.
[30] Donini LM, Busetto L, Bischoff SC, *et al*. Definition and diagnostic criteria for sarcopenic obesity: ESPEN and EASO consensus statement. Obes Facts 2022;15:321–35.
[31] Liu C, Wong PY, Chung YL, *et al*. Deciphering the "obesity paradox" in the elderly: a systematic review and meta-analysis of sarcopenic obesity. Obesity Rev 2023;24:1–15.
[32] Gill H, Kang S, Lee Y, *et al*. The long-term effect of bariatric surgery on depression and anxiety. J Affect Disord 2019;246:886–94.
[33] Law S, Dong S, Zhou F, *et al*. Bariatric surgery and mental health outcomes: an umbrella review. Front Endocrinol 2023;14:1283621.
[34] Neovius M, Bruze G, Jacobson P, *et al*. Risk of suicide and non-fatal self-harm after bariatric surgery: results from two matched cohort studies. Lancet Diabetes Endocrinol 2018;6:197–207.
[35] Angeles PC, Robertsen I, Seeberg LT, *et al*. The influence of bariatric surgery on oral drug bioavailability in patients with obesity: a systematic review. Obes Rev 2019;20:1299–311.
[36] Wallerstedt SM, Nylén K, Axelsson MAB. Serum concentrations of antidepressants, antipsychotics, and antiepileptics over the bariatric surgery procedure. Eur J Clin Pharmacol 2021;77:1875–85.
[37] Bal BS, Finelli FC, Shope TR, *et al*. Nutritional deficiencies after bariatric surgery. Nat Rev Endocrinol 2012;8:544–56.
[38] Shankar P, Boylan M, Sriram K. Micronutrient deficiencies after bariatric surgery. Nutrition 2010;26:1031–37.
[39] Groller KD. Systematic review of patient education practices in weight loss surgery. Surg Obesity Related Dis 2017;13:1072–85.
[40] Shin CH, Zaremba S, Devine S, *et al*. Effects of obstructive sleep apnoea risk on postoperative respiratory complications: protocol for a hospital-based registry study. BMJ Open 2016;6:e008436.
[41] Pivetta B, Sun Y, Nagappa M, *et al*. Postoperative outcomes in surgical patients with obstructive sleep apnoea diagnosed by sleep studies: a meta-analysis and trial sequential analysis. Anaesthesia 2022;77:818–28.
[42] Elsaid MI, Li Y, Bridges JFP, *et al*. Association of bariatric surgery with cardiovascular outcomes in adults with severe obesity and nonalcoholic fatty liver disease. JAMA Network Open 2022;5:E2235003.
[43] Mingrone G, Castagneto-Gissey L, Bornstein SR. Metabolic/bariatric surgery protects against cardiovascular disease. Eur Heart J 2022;43: 1970–72.
[44] Sjöström L, Peltonen M, Jacobson P, *et al*. Bariatric surgery and long-term cardiovascular events. JAMA 2012;307:56–65.
[45] Pirlet C, Biertho L, Poirier P, *et al*. Comparison of short and long term cardiovascular outcomes after bariatric surgery in patients with vs without coronary artery disease. Am J Cardiol 2020;125:40–47.
[46] Zhou H, Luo P, Li P, *et al*. Bariatric surgery improves nonalcoholic fatty liver disease: systematic review and meta-analysis. Obes Surg 2022;32:1872–83.
[47] Ahmed S, Pouwels S, Parmar C, *et al*. Outcomes of bariatric surgery in patients with liver cirrhosis: a systematic review. Obes Surg 2021; 31:2255–67.
[48] Patton H, Heimbach J, McCullough A. AGA clinical practice update on bariatric surgery in cirrhosis: expert review. Clin Gastroenterol Hepatol 2021;19:436–45.
[49] Della Penna A, Lange J, Hilbert J, *et al*. Ursodeoxycholic acid for 6 months after bariatric surgery is impacting gallstone associated morbidity in patients with preoperative asymptomatic gallstones. Obes Surg 2019;29:1216–21.
[50] Mulliri A, Menahem B, Alves A, *et al*. Ursodeoxycholic acid for the prevention of gallstones and subsequent cholecystectomy after bariatric surgery: a meta-analysis of randomised controlled trials. J Gastroenterol 2022;57:529–39.
[51] Fearon NM, Kearns EC, Kennedy CA, *et al*. The impact of ursodeoxycholic acid on gallstone disease after bariatric surgery: a meta-analysis of randomised control trials. Surg Obesity Related Dis 2022;18:77–84.
[52] Giannopoulos S, Athanasiadis DI, Clapp B, *et al*. Proton pump inhibitor prophylaxis after Roux-en-Y gastric bypass: a national survey of surgeon practices. Surg Obesity Related Dis 2023;19:303–08.