AIG HOSPITALS | Center for Obesity & Metabolic Therapy

Bariatric and Metabolic Endoscopy Across the Globe: Challenges and Opportunities

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THE GLOBAL PICTURE

A Worldwide Metabolic Epidemic

1 Billion+

Adults living with obesity worldwide, 2024

15.8%

Global adult obesity prevalence, 2022 — up from 6.6% in 1990

~3 Billion

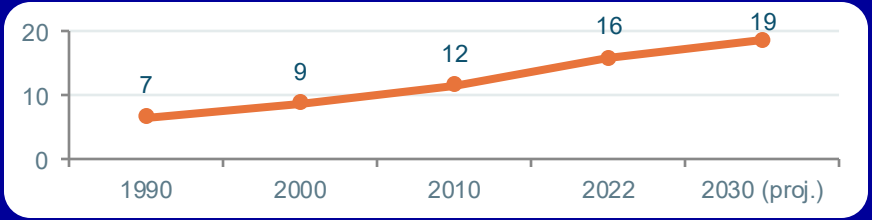
People living with overweight or obesity combined

79%

Of adults with overweight/obesity will live in LMICs by 2035

Once concentrated in high-income nations, obesity now rises fastest in low- and middle-income countries — reshaping where metabolic disease burden, and demand for treatment, will concentrate.

Global Adult Obesity Prevalence, 1990–2022



WHO Global Health Observatory; NCD-RisC, Lancet 2024; World Obesity Federation Atlas 2024

THE GLP-1 EFFECT

How GLP-1s Are Reshaping Obesity Treatment

The market expanded, it did not split

Pharmacotherapy brought obesity into mainstream medical conversation and pulled in patients who would never have considered a procedure. The pool actively seeking treatment is far larger than five years ago.

The efficacy benchmark has been reset

Patients now arrive expecting weight loss in the mid-teens as a percentage of total body weight, and more with dual agonists. Every other option is judged against that number.

The limitation is persistence, not potency

Real-world discontinuation is high, driven by cost, tolerability, supply and coverage, and a large share of lost weight returns after stopping. Durability is the unmet need.

Short-term pressure, medium-term tailwind

Procedural volumes felt real substitution pressure as the drugs scaled. What follows is a growing post-pharmacotherapy population that still needs a lasting answer.

THE SHIFT

Why this conversation matters now

Endoscopy is moving from a "weight-loss procedure" to an integrated metabolic platform.

13.6%
TBWL at 52 weeks in MERIT ESG arm

80%
with metabolic-comorbidity improvement in MERIT

2%
serious adverse events; no mortality in MERIT

2026
IFSO consensus formalizes ESG practice

THE BIGGER PICTURE

- Obesity care is now a continuum: lifestyle → medication → endoscopy → surgery → revision.
- GLP-1/GIP therapies raise the bar: procedures must add durable, complementary metabolic value.
- Endoscopy offers anatomy preservation, shorter recovery and access to patients outside traditional surgical pathways.
- The gastroenterologist is increasingly positioned as the procedural metabolic physician.

GLOBAL LANDSCAPE

Endoscopic Bariatric Therapy: Where We Stand Today

25,000+

Endoscopic sleeve gastroplasty procedures performed worldwide

10,000+

Patients included in clinical studies worldwide

40,000+

ESG procedures to date, used clinically on every continent

400,000+

Six-month intragastric balloons distributed worldwide (May 2024)

Also: 50,000+ twelve-month balloons distributed worldwide

CHALLENGES

- Fragmented reimbursement and coverage across markets
- Uneven regulatory pathways and device availability
- Training, credentialing and proctoring bottlenecks
- Referral gap: only a small fraction of eligible patients treated

OPPORTUNITIES

- Fills the treatment gap between drugs and surgery
- Day-case, organ-preserving, repeatable and reversible
- Growing evidence base supporting society recognition
- Rapid uptake in Middle East, Latin America and Asia-Pacific

Sources: approved company external figures (ESG procedures and clinical study patients; balloon distribution volumes, May 2024); IFSO position statement on endoscopic bariatric therapy.

The global endoscopic toolbox

Different targets • different mechanisms • different evidence maturity

GASTRIC	POST-SURGICAL	DUODENAL	HYBRID
			
ESG • Intragastric balloons	**TORe • Revision suturing**	**DMR / ReCET • Emerging platforms**	**Endoscopy + anti-obesity medication**
Restriction + altered accommodation/satiation	Restore anatomy after RYGB / altered outlet	Metabolic signaling / insulin sensitivity	Synergistic, phenotype-driven care

KEY CONCEPT

The future is not “endoscopy vs surgery” — it is selecting the least invasive intervention that delivers meaningful health gain.

ROLE IN THE NEW ERA

Balloons, ESG and TORe: Where Each One Fits

Intragastric balloons

The access and volume play

Lowest barrier to entry, no permanent anatomical change, and the natural fit for lower-BMI patients, those intolerant of or unwilling to take medication, and pre-operative optimisation. Best positioned as a step or a bridge rather than an alternative.

Endoscopic sleeve gastroplasty

The durability play

An anatomical intervention with sustained multi-year outcomes offers what pharmacotherapy structurally cannot. As the conversation shifts to what happens when the drug stops, the ESG argument strengthens rather than weakens.

Transoral outlet reduction

A capability, not a growth engine

Limited expansion is structural, not clinical: it addresses regain after gastric bypass, so its ceiling tracks a shrinking bypass population, revisional referral pathways are thin, and post-bypass regain is now often managed with medication first.

Endoscopy should attach to pharmacotherapy, not compete with it on headline weight loss.

Sources: published ESG, intragastric balloon and TORe outcome literature, including the MERIT randomised trial of ESG; society guidance on endoscopic bariatric therapies.

A PERSPECTIVE ACROSS SIX HEALTH SYSTEMS

Six Regions, Six Different Realities

United States

ESTABLISHED, PAYER-LIMITED

Driver FDA-cleared ESG/IGB devices; strong GI society backing (ASGE/ABE) and academic multidisciplinary obesity programmes

Barrier Inconsistent insurance coverage keeps most procedures out-of-pocket, concentrated at academic centres

Europe

FRAGMENTED BY COUNTRY

Driver CE-marking enables earlier device access than the US; deep endoscopic training culture via ESGE

Barrier Reimbursement varies sharply by national system — no unified EU obesity-treatment pathway

South America

SURGERY-DOMINANT, ENDOSCOPY EMERGING

Driver Brazil is a regional bariatric hub; ESG uptake rising in premium private clinics as eligibility broadens

Barrier Public health systems (e.g. SUS) offer limited access — EBMTs remain largely a private-pay option

Asia (ex-India)

RAPIDLY SCALING, URBAN-LED

Driver China, Japan, and South Korea combine rising obesity/T2DM burden with world-class endoscopic technique

Barrier Regulatory and reimbursement pathways differ sharply across markets; access concentrated in major cities

Africa

NASCENT

Driver Fastest-rising obesity and NCD trajectory of any region signals urgent long-term demand

Barrier Fewest advanced endoscopy suites and trained proceduralists; obesity competes with infectious disease and maternal health for resources

India

HIGH-VOLUME, COST-ADVANTAGED

Driver Deep pool of skilled interventional endoscopists, lower procedural cost, and fast-growing private healthcare investment

Barrier Reimbursement is almost entirely out-of-pocket; CDSCO regulatory pathway for EBMT devices still maturing

Global challenges: why adoption is uneven

Technology is global; infrastructure, training, reimbursement and follow-up are not

India

- High obesity/T2D burden but low endoscopic-bariatric penetration outside metros
- Cost-sensitive market; device pricing and out-of-pocket payment limit scale
- Centres of excellence (incl. AIG Hospitals) driving training, fellowships and registries

Asia

- Fast-rising obesity and T2D across East & Southeast Asia
- Strong endoscopic skill base (Japan, Korea, China, Singapore) but fragmented standards
- Reimbursement and public awareness vary widely by country

Europe

- Mature RCT and registry culture; IFSO-EU driving multinational consensus
- Reimbursement fragmented across national health systems
- Access concentrated in high-volume academic centres

Africa

- Rising obesity in urban centres; endoscopic/bariatric infrastructure still minimal
- Very few trained proceduralists; limited local device and service ecosystem
- Care largely concentrated in a handful of referral centres

South America

- Established bariatric-surgery culture (Brazil, Argentina, Colombia)
- Growing endoscopic interest, but access concentrated in private/urban systems
- Opportunity to integrate endoscopy into existing surgical obesity programs

North America

- Technology and training leadership; most device approvals originate here
- Inconsistent insurance coverage for EBMT limits scale despite strong evidence
- High procedure cost relative to competing GLP-1/GIP therapies

Global opportunity = standardize the pathway, not just the procedure.

CHALLENGES

What Is Holding Endobariatrics Back

Reimbursement and coverage

Endoscopic therapies remain largely self-pay in most markets. Without coded, reimbursed pathways, volume stays concentrated in private practice and access is limited by ability to pay.

Regulatory and device fragmentation

Approval status, indications and BMI thresholds differ widely by country, so the same therapy is routine in one market and unavailable in the next.

Training, credentialing and proctoring

Suturing and balloon management require dedicated skills, structured proctoring and case volume. Capacity to train new operators is a real rate limiter on growth.

Awareness and referral pathways

Only a small fraction of eligible patients ever reach an obesity specialist. **Patients, Primary care and endocrinology often do not know endoscopic options exist or when to refer.**

Evidence, durability and follow-up

Longer-term comparative data and registry participation are still maturing, and outcomes suffer where structured dietetic and follow-up support is missing.

Patient selection and expectations

Increasingly patients arrive already on or after pharmacotherapy, and clear guidance on who to treat, when and in what sequence is still evolving.

OPPORTUNITY

Where the opportunities are biggest

Think in populations and care gaps—not devices

Class I–II obesity

Evidence-supported expansion of ESG beyond traditional surgical thresholds

High surgical risk

Anatomy-sparing intervention when operative risk or preference limits surgery

Post-bariatric weight recurrence

Endoscopic revision / outlet or pouch remodeling in selected anatomy

Metabolic disease

Duodenal therapies may target T2D biology beyond weight loss

Combination therapy

Procedure + AOM + nutrition + exercise = adaptive, phenotype-based care

India / emerging markets

Potential for lower infrastructure burden, shorter recovery and scalable specialty programs

FROM CHALLENGE TO OPPORTUNITY

What It Will Take to Scale

CHALLENGE	WHAT MOVES IT FORWARD
Limited reimbursement	Health-economic data and payer dialogue showing avoided downstream cost of untreated obesity
Uneven access and regulation	Regional registries and society alignment on indications, thresholds and quality standards
Training bottlenecks	Structured curricula, simulation and proctoring so new centres reach competence faster
Weak referral pathways	**Awareness to patients: Digital marketing**, Embedding endoscopy in multidisciplinary obesity clinics alongside medical and surgical care
Durability questions	Longer follow-up, combination protocols with pharmacotherapy and mandatory lifestyle support

The therapy is proven and global. The work ahead is access, training and integration into everyday obesity care.

GLOBAL POTENTIAL

Where the Growth Actually Comes From

Demand has never been the constraint. Access is.

Only a small fraction of people who meet the criteria for obesity intervention ever receive one. The ceiling on endoscopic therapy is set by three unlocks, not by patient interest.

01

Reimbursement

Coded, covered pathways move volume out of self-pay and into mainstream practice.

02

Trained operators

Structured curricula and proctoring set how fast new centres can come online.

03

Referral pathways

Patient, Primary care and endocrinology need to know when to refer, and to whom.

THE GROWTH THESIS

- Pharmacotherapy widens the top of the funnel; endoscopy captures the durability segment beneath it.
- The largest near-term opportunity is post-pharmacotherapy maintenance, a population that barely existed three years ago.
- Uptake varies by market because those three unlocks resolve at very different speeds, not because clinical need differs.

Qualitative view only. No market sizing, business size or commercial projections are presented. Based on publicly discussed access and treatment-penetration themes.

FUTURE

The next generation: precision endoscopic metabolic therapy

From one procedure for everyone → adaptive treatment algorithms

AI-assisted procedural guidance

Standardized suturing patterns and real-time technique feedback

Digital phenotyping

Weight trajectory, glycemia, liver disease, eating behavior

Adaptive sequencing

Combining ESG, medications, revision and metabolic interventions

Registry-based quality metrics

TBWL, HbA1c, comorbidity response, QoL, adverse events, durability

IMPLEMENTATION

What should a world-class metabolic endoscopy program look like?

A practical blueprint for a gastroenterologist-led service

Multidisciplinary board

GI • obesity medicine • bariatric surgery • nutrition • psychology • anesthesia

Standardized protocol

Selection → pre-endoscopy work-up → procedure → diet → medication → surveillance

Credentialing

Competency-based training + case volume + adverse-event governance

Outcome registry

≥12/24/36-month weight, metabolic, procedural and patient-reported outcomes

Rescue network

Surgery and tertiary referral pathways available before the first procedure

Research platform

Prospective data + RCT participation + innovation under governance

WHAT'S NEXT

Opportunities on the Horizon

Combination Therapy

ESG + GLP-1/GIP agents to enhance and sustain weight loss beyond either modality alone

Duodenal Metabolic Endotherapy

Pulsed electric field mucosal ablation — an India-originated innovation now progressing through first-in-human study, targeting insulin resistance directly

AI-Assisted Endoscopy

Procedural guidance, outcome prediction, and training feedback to shorten the learning curve

Hub-and-Spoke Training Models

Tertiary academic centres mentoring regional units to widen access beyond major cities

AI as a Force Multiplier for Global Scale-Up

1

Procedural Guidance

Real-time computer vision to guide suture placement and stitch density during ESG

2

Quality Benchmarking

Automated scoring of procedural technique to standardize training and credentialing

3

Outcome Prediction

Models integrating anatomy, comorbidities, and procedural data to predict weight-loss trajectory

4

Remote Mentorship

AI-assisted tele-proctoring extending expert oversight to low-resource training sites

Consistent with the AI-in-endoscopy trajectory already reshaping polyp detection and Barrett's surveillance, AI-guided EBMT can shorten learning curves and narrow global outcome variability.

THE PATH FORWARD

A Roadmap for Global Scale-Up

1

Build Evidence

Multicentre registries and long-term RCTs to establish durability and cost-effectiveness

2

Standardize Training

Credentialing pathways and regional centres of excellence with proctored case volume

3

Align Regulation & Reimbursement

Harmonize device pathways; use registry data to unlock payer coverage

4

Integrate, Don't Compete

Position EBMTs alongside GLP-1 therapy and surgery within a stepped-care obesity pathway

The opportunity is not to choose between surgery, pharmacotherapy, and endoscopy — but to build health systems that can offer the right therapy, at the right time, to every eligible patient.

THE METABOLIC INNOVATION BLUEPRINT

Phenotyping Clinic

Dedicated metabolic workup: CGM, DEXA, FibroScan, microbiome, genetic risk panel

AI Decision Platform

In-house ML pipeline integrating EHR + CGM + imaging for real-time clinical guidance

EBMT Programme

ESG + GFMA + IGB + DMR unit with dedicated outcomes registry

Digital Therapeutics

Prescription digital therapeutics (PDT): CGM coaching, AI diet, sleep & stress modules

Research & Registry

REDCap registry + IRB-approved RCT capacity

Population Health AI

integrated population screening for high-risk metabolic phenotypes