



## Why something better?

Obesity and upper abdomen procedures are a large market

Patients are getting heavier, as are their organs

Liver retraction poses special problems in obese patients

Existing retractors are ineffective and injure patients

REVEEL is designed to overcome these challenges

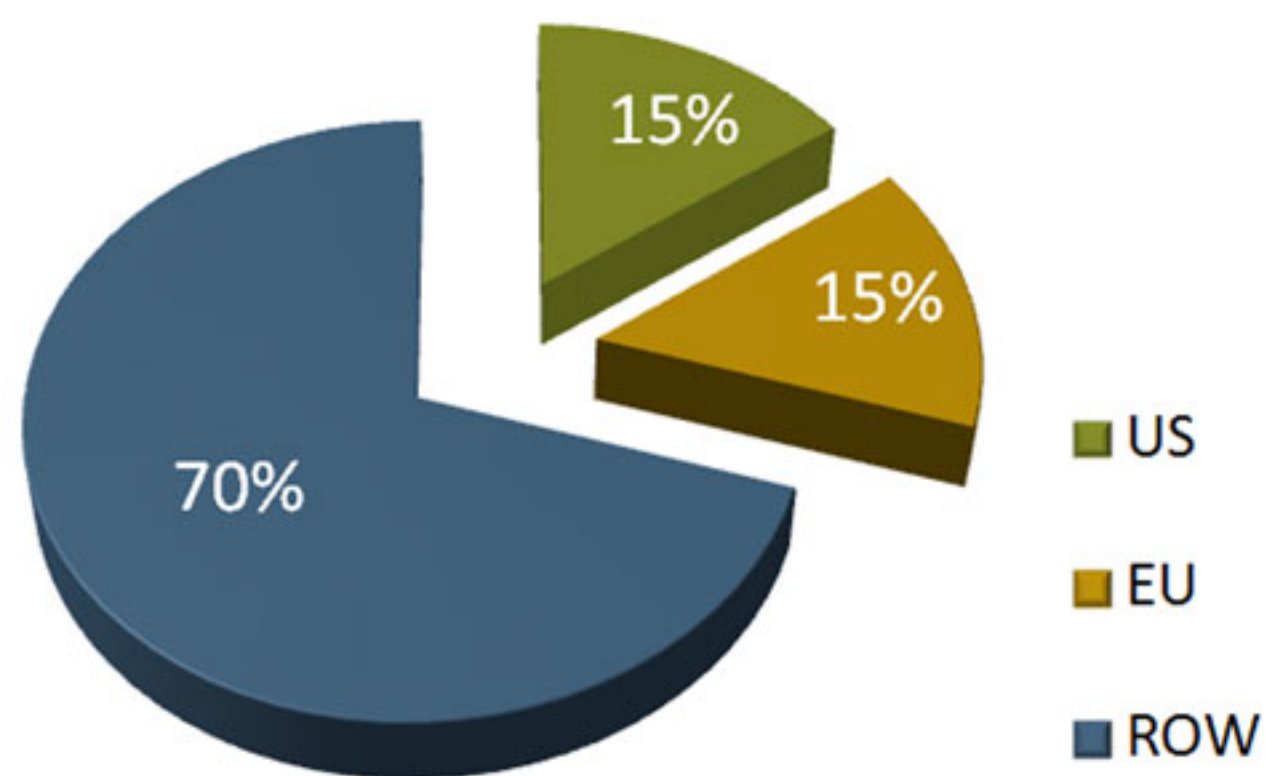


## GENTLE, FAST and EASY Laparoscopic Retraction



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- Liver retraction poses special problems in obese patients
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[3.1] Bariatric (Obesity) Surgical Devices - A US & European Market Report 07/09 Global Industry Analysis, Inc., 5645 Silver Creek Calley Road, San Jose, CA 95138



400 million people across the world are considered obese 700 million people are expected to be obese by 2015

Obese Population in the World (2009): Percentage by Region [3.1]

## Heavy patients require better retractors

### Obese livers create problems for surgeons

- Visualization is poor
- Liver slips requiring repositioning of retractor
- Retraction pressure on liver is increased, causing injury
- Procedures are lengthened, made more complex

### Liver size and weight overwhelm current designs

- Larger patients have larger, heavier livers [5.1]
- Preoperative liver-reducing diets are common

### What is needed?

- A better, stronger, atraumatic retraction surface
- A shape that optimizes access and visualization
- Slip prevention without pressure
- Easy and fast to set up and use
- Cost effective: nothing to break, maintain or clean

### Current retractors don't work

- Too small**
  - Liver obstructs access and view
- Improper shape**
  - Liver flops into operating field
- Slippy with low CoF**
  - Liver slips
  - High pressure / force required
- Poor design**
  - Tedious to set-up
  - Constant repositioning
- Link / cable structure**
  - Unreliable, expensive
  - Impossible to clean

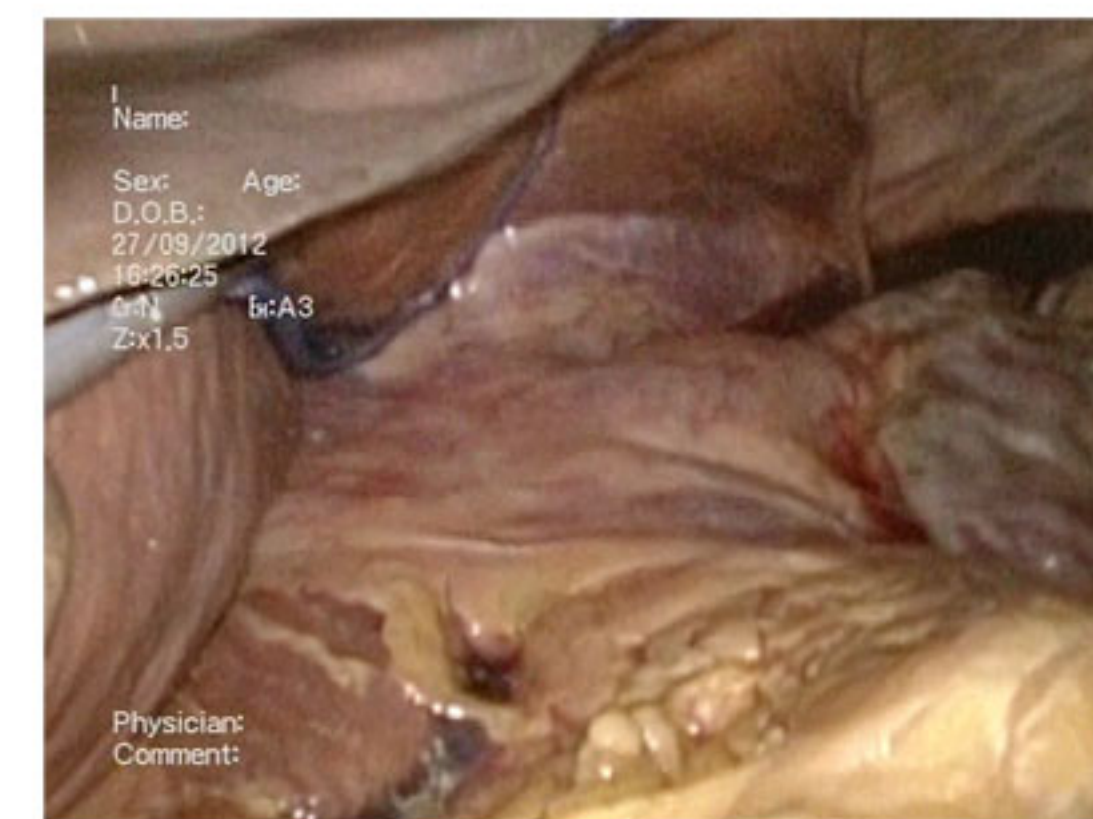
## Unparalleled exposure

Harp shape conforms to liver shape I-Beam prevents drooping liver  
Better access to upper gut; better visualization of operative site



## Exposure: can yours do this?

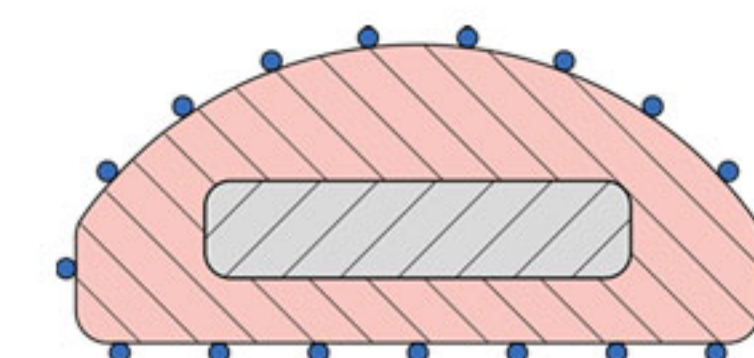
Specimen	Torso
Age / Race / Sex	66 / C / M
Height / Weight / BMI	71 in. / 250 lbs. / 35
Cause of Death	End Stage Cardiovascular Disease



## Active traction: stop the crushing!

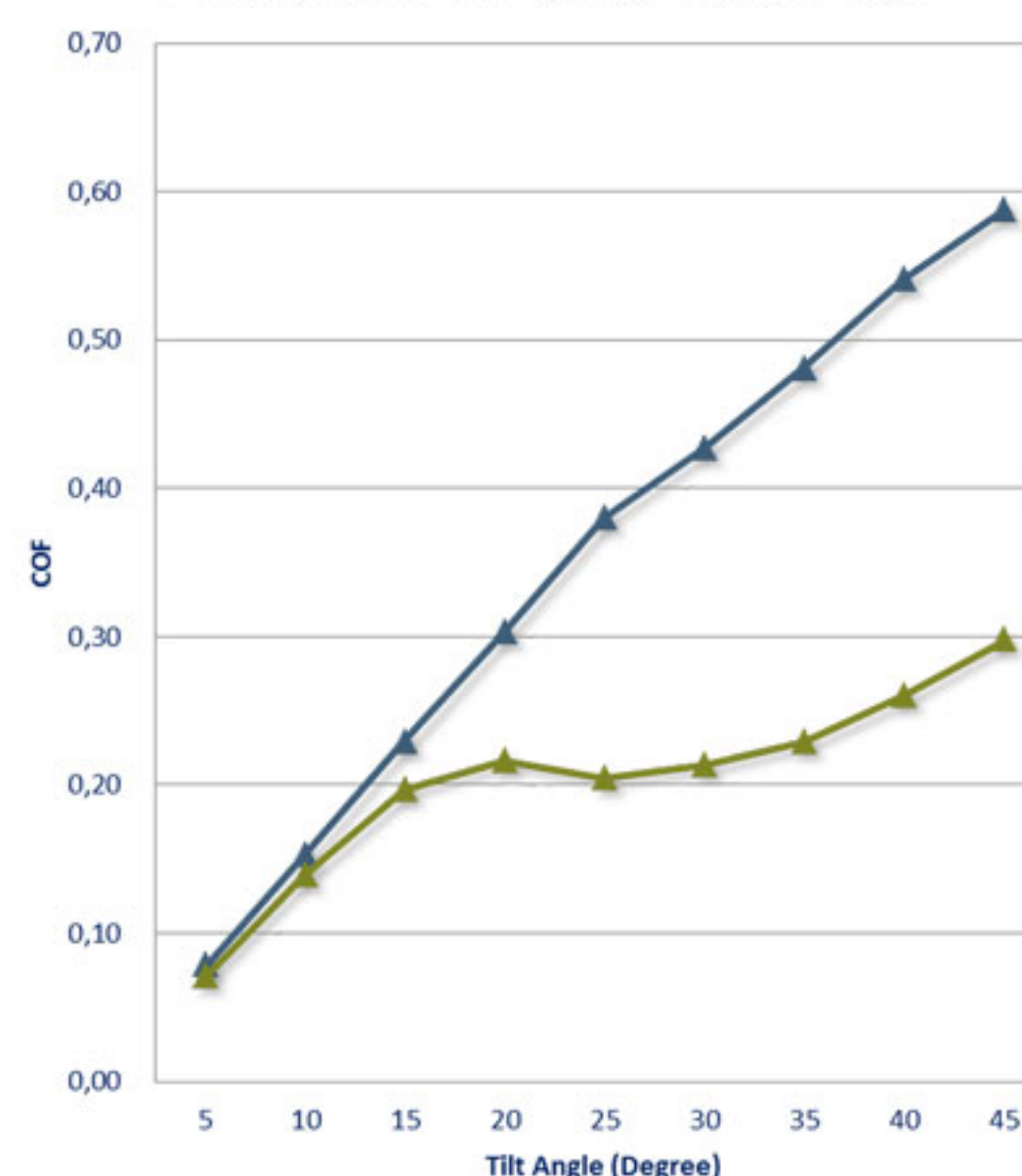


Radical re-think of retraction:  
NiTi arms – flexible yet rigid  
Soft, atraumatic overmold  
Braid actively engages tissue  
Gently holds without crushing pressure



Active traction prevents loss of time and prevents injury due to slippage and pressure

### Friction is the secret



REVEEL CoF = Nathanson CoF X 2

More Friction → Less Pressure

Less Pressure → Less Liver Disruption / Damage



Dilating tip allows rapid introduction without trocar  
One-step handle is fast and easy to actuate, set up, and remove

Effective retraction achieved in 30 to 50 s Fast and easy to use

- Exposure**
  - Best in class visualization
- Optimized shape**
  - Designed to fit and accommodate the liver
- Active traction**
  - Reduces risk of trauma and liver infarction
  - Prevents slippage and repositioning
- Speed and ease**
  - Percutaneous
  - Rapid insertion, actuation, and removal
- Strong**
  - Solid mechanical architecture
  - Won't break!

