# Updates on the Mesentery - their importance in colorectal surgery

Prof J Calvin Coffey Professor and Chair of Surgery Graduate Entry Medical School, University of Limerick University Hospital Limerick



# What is the mesentery?

# "The mesentery is a double fold

# of peritoneum that maintains

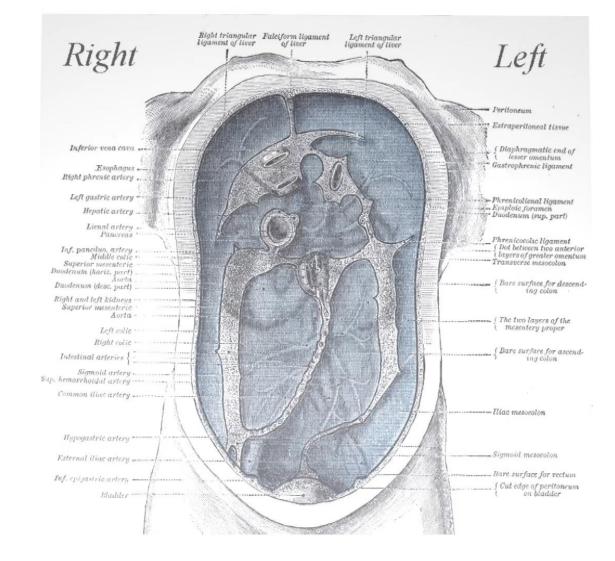
# the intestine in position"



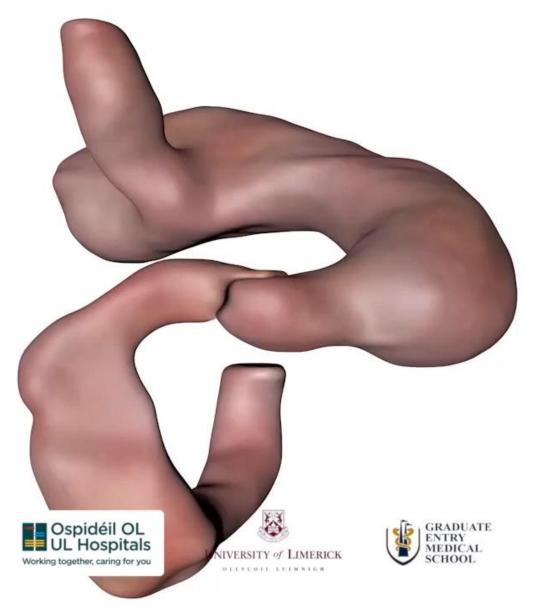
# **Classic model**

## 150 years Old

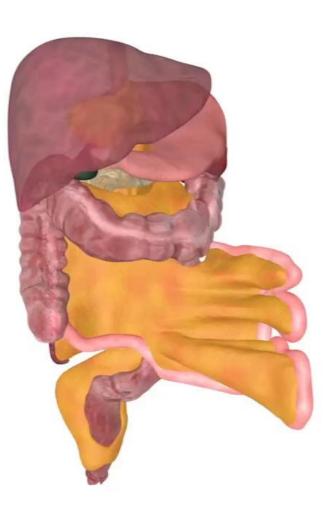
## Henry Gray Gray's Anatomy



# New model of the "mesentery"



# The mesentery as an Organ



# The mesentery incubates digestive organs



# The mesentery links digestive organs



# <u>New definition – The Mesentery</u>

The mesentery is the collection of tissues That maintains <u>all abdominal digestive</u> <u>Organs</u> in position and in continuity with Other systems



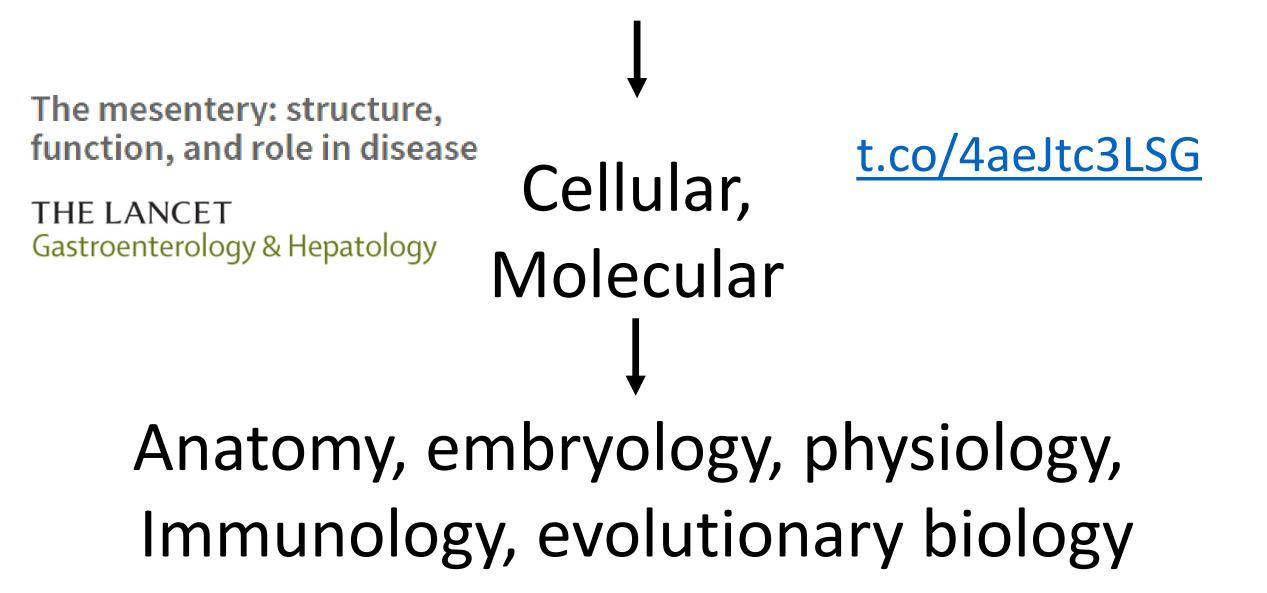
Gray's Anatomy 41<sup>st</sup> Ed Langman's Medical Embryology

Gray's Surgical Anatomy, 2019 Seminars in Developmental Biology

Gray's Anatomy 42 Ed



# **Scientific Implications**



# The Mesenteric Digestive System



# **<u>Clinical Implications</u>**

Diagnostic

Therapeutic

Defining the mesentery as an organ and what this means for understanding its roles in digestive disorders

Journal Expert Review of Gastroenterology & Hepatology > Volume 11, 2017 - Issue 8 t.co/1je15ec8nl

Surgery, Pathology, Gastroenterology Radiology, Oncology,..... MESENTERIC PRINCIPLES OF GASTROINTESTINAL SURGERY BASIC AND APPLIED SCIENCE



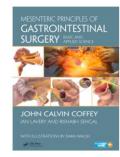


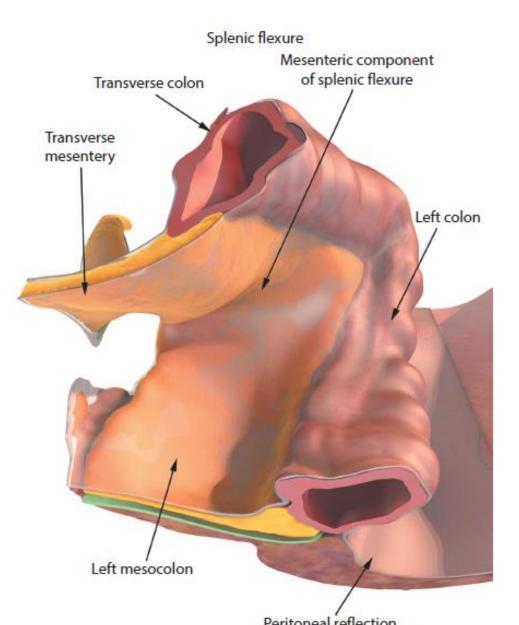
## New model – New Language



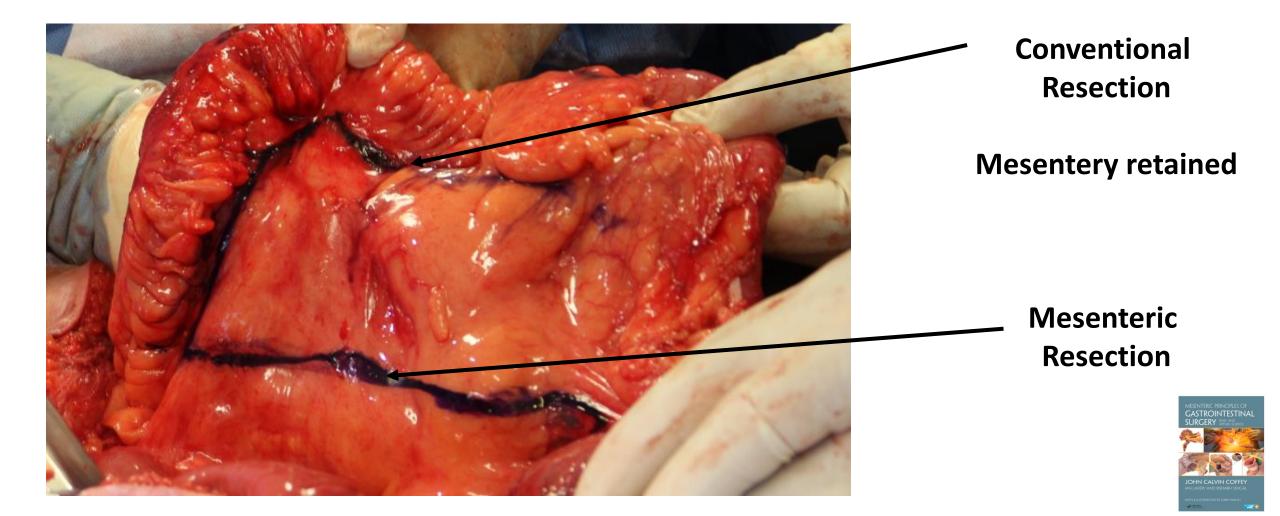
March 2016

## **STANDARDISATION**

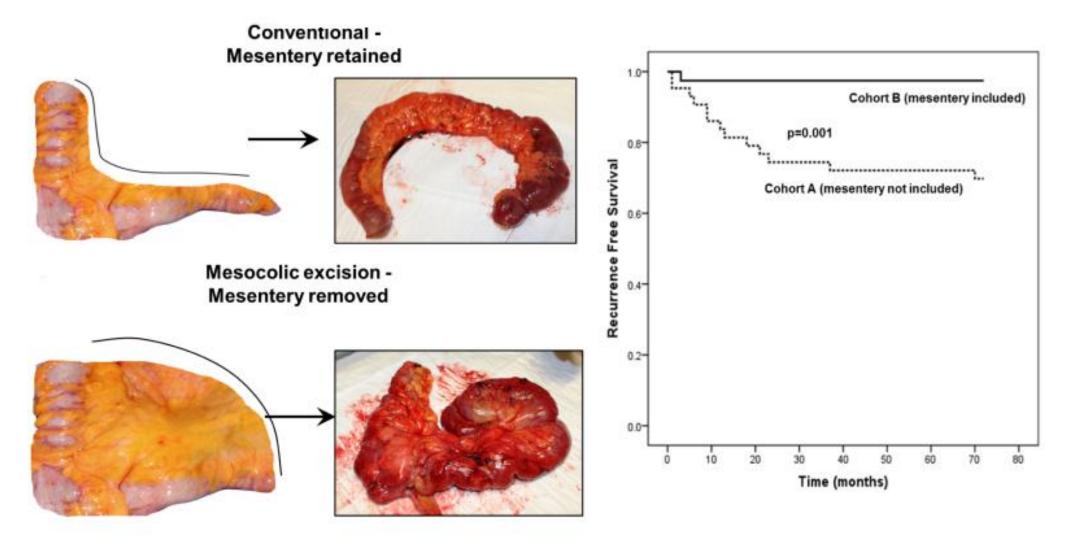




# Crohn's Disease – conventional versus Mesenteric Resection

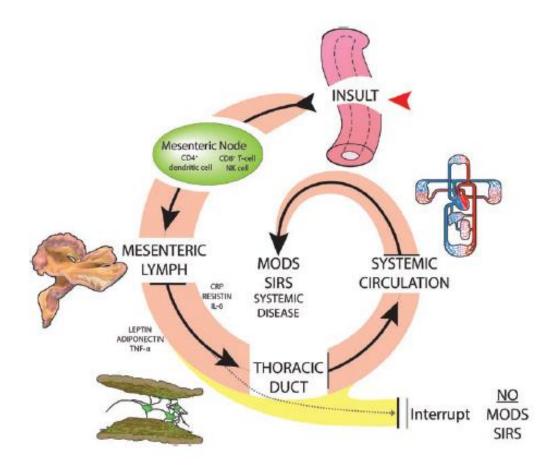


# Mesenteric resection was associated with reduced surgical recurrence in ileocolic Crohn's disease



Coffey et al, Journal of Crohn's Colitis, 2018

#### The Mesentery, Systemic Inflammation, and Crohn's Disease



Rivera et al., Dep. Gastroenterology University of Miami Inflammatory Bowel Diseases, 2018







Carl Weidinger<sup>a,c</sup>, Ahmed N. Hegazy<sup>a,b,c</sup>, and Britta Siegmund<sup>a</sup>

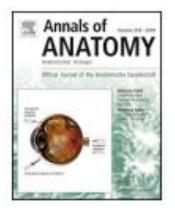
"The increasing body of data supporting the concept that The mesentery serves as an ...organ ... is strongly supported by data published over the last 18 months"

Current Opinion in Gastroenterology, 2018

Mesenteric Immunology Berlin, 2018



### The mesentery: an ADME perspective on a 'new' organ

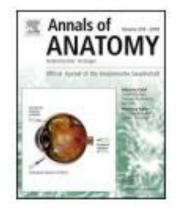


### Aneesh A. Argikar<sup>a</sup> 💿 and Upendra A. Argikar<sup>b</sup> 💿

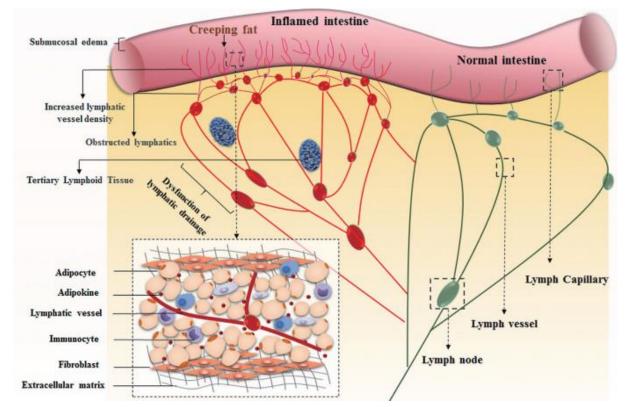
**Drug Metabolism Reviews** 

<u>Mesenteric</u> <u>pharmacology</u> Novartis, Cambridge, USA, 2018

### Mesenteric organ lymphatics and inflammatory bowel disease



Yuanyuan Ge, Yi Li\*, Jianfeng Gong, Weiming Zhu



<u>Mesenteric</u> <u>Iymphangiology</u> Nanjing, China, 2018



# **The Mesentery**

# The mesentery is the collection of tissues that maintains all abdominal digestive organs in position and in continuity with other systems



#### ACKNOWLEDGEMENTS

## Dara Walsh, Peter Dockery, Kevin Byrne

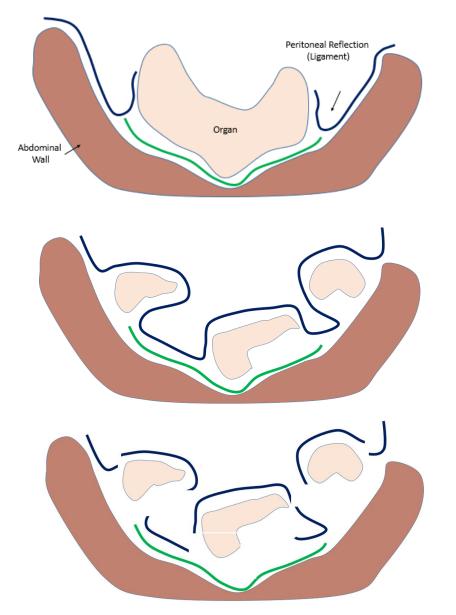
Miranda Kiernan<sup>¢,1,2,3</sup>, Ian Lavery<sup>4</sup>, John P. Burke<sup>5,6</sup>, Patrick A. Kiely<sup>2,3,7</sup>, Bo Shen<sup>4,8</sup>, Victor Fazio<sup>4</sup>, Colin Peirce<sup>1</sup>, Manus Moloney<sup>9</sup>, Maeve Skelly<sup>9</sup>, Paul Tibbitts<sup>1,2</sup>, Hena Hidayat<sup>1</sup>, Peter N. Faul<sup>10</sup>, Vourneen Healy<sup>10</sup>, D. Peter O`Leary<sup>1</sup>, P. Ronan O`Connell<sup>5,6</sup>, Sean Martin<sup>5</sup>, Fergus Shanahan<sup>12</sup>, Claudio Fiocchi<sup>8,13</sup>,

MESENTERIC PRINCIPLES OF GASTROINTESTINAL SURGERY BASIC AND APPLIED SCIENCE

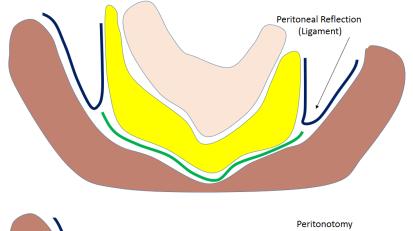


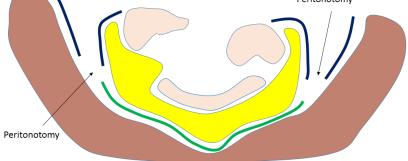


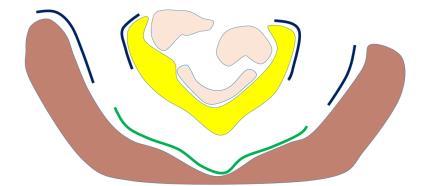
# Peritoneal model



# Mesenteric model





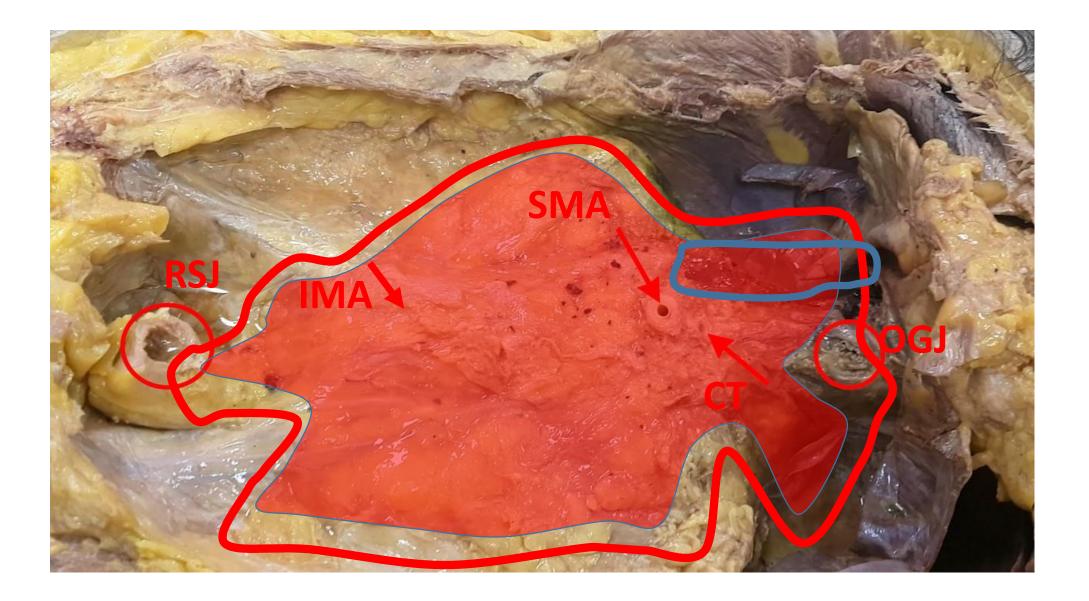


# The mesentery is a primary determinant of abdominal anatomy

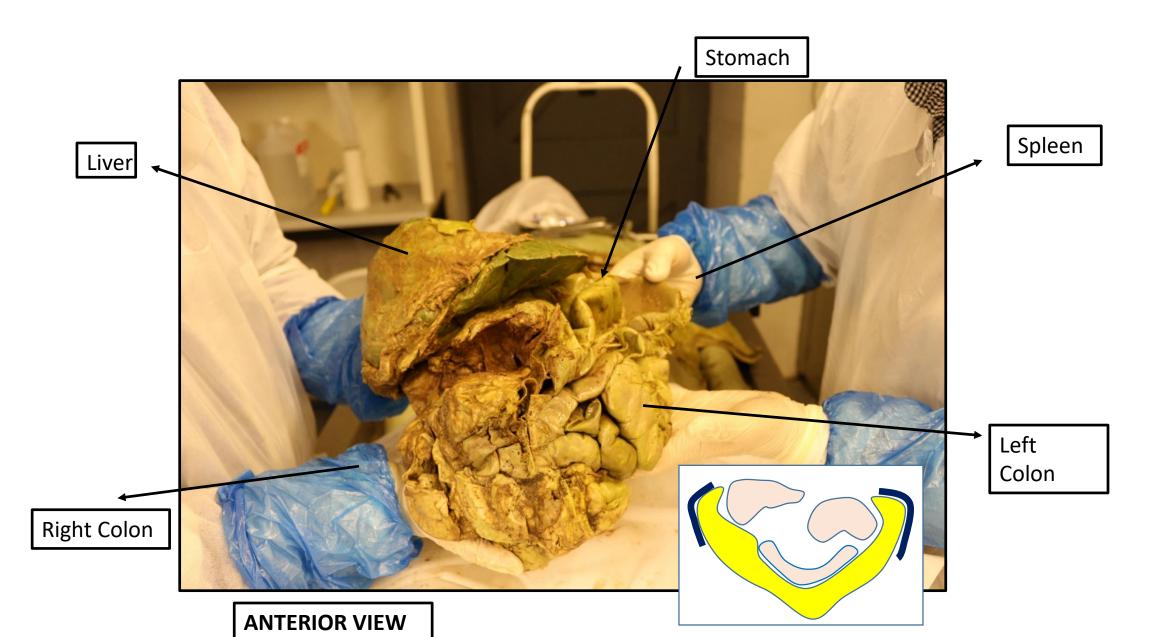
# It determines the anatomy of the abdominal digestive system

It determines peritoneal and peritoneal cavity anatomy

# How is the mesentery held in position?



# Mesenteric digestive system



# Mesenteric digestive system

