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Welcome



Nalini M. Guda, MD, FACC



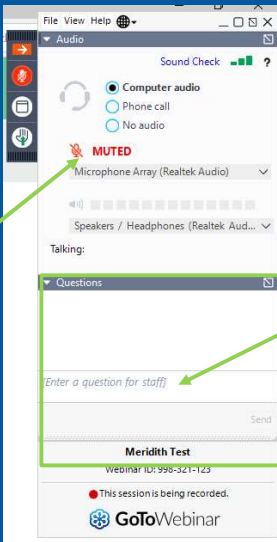
Mahesh K. Goenka MD, FACC



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ACG Virtual Grand Rounds universe.gi.org

Participating in the Webinar



All attendees will be muted and will remain in Listen Only Mode.

Type your questions here so that the moderator can see them. Not all questions will be answered but we will get to as many as possible.

Meridith Test
Webinar ID: 998-321-123
This session is being recorded.
GoToWebinar

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ACG
2023

OCTOBER
20-25, 2023
VANCOUVER, CANADA

VANCOUVER

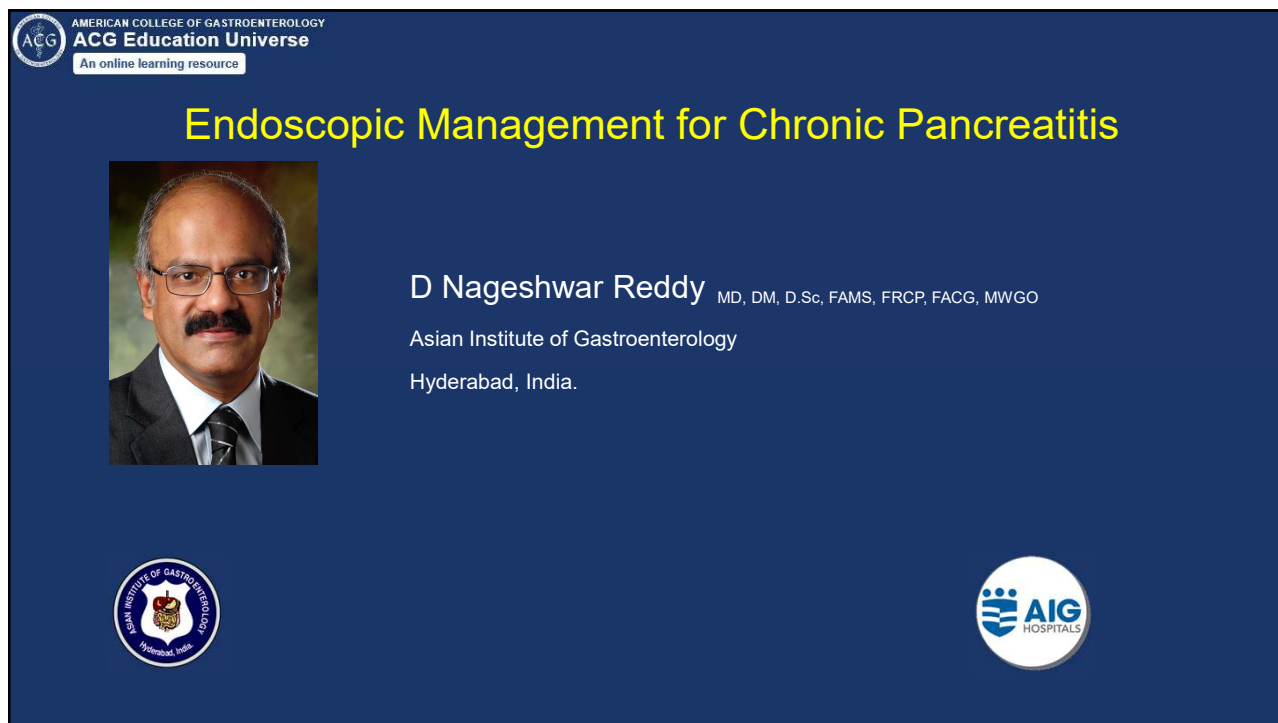
Save the Date!

Be sure your passport is up to date!

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The poster features a large aerial view of Vancouver, Canada, with mountains in the background and a harbor with boats in the foreground. The text is arranged in a clean, modern layout with a mix of bold sans-serif and handwritten-style fonts. A blue speech bubble contains the reminder about passports.

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Endoscopic Management for Chronic Pancreatitis



D Nageshwar Reddy MD, DM, D.Sc, FAMS, FRCP, FACC, MWGO
Asian Institute of Gastroenterology
Hyderabad, India.

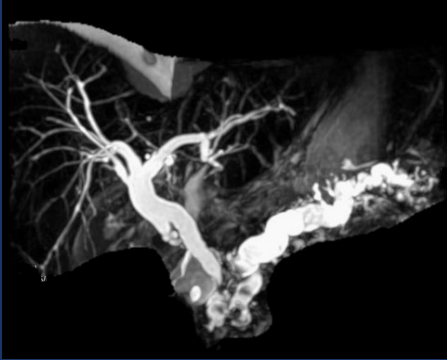
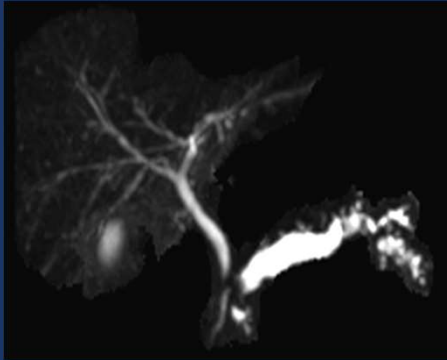


The slide has a dark blue background. It includes the ACG logo and name at the top left, the title of the presentation in yellow, a portrait of the speaker, and his credentials and affiliation. At the bottom, there are logos for the Asian Institute of Gastroenterology and AIG Hospitals.

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Chronic Pancreatitis : Stones & Strictures

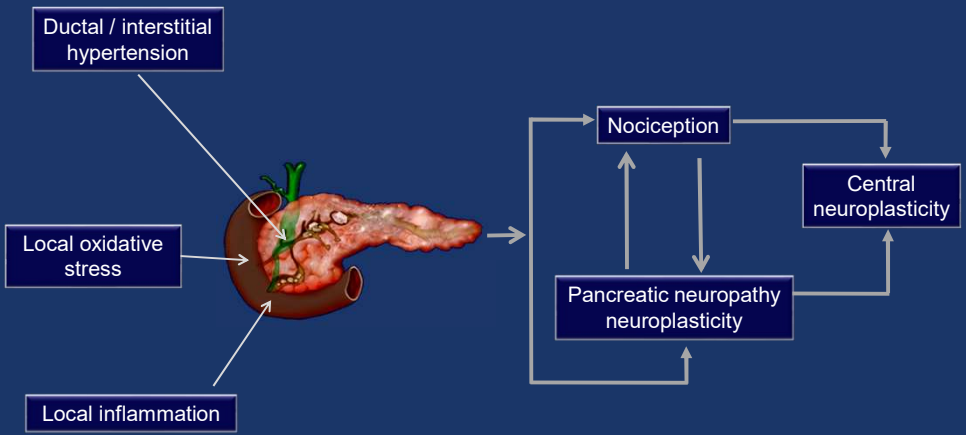
Intervention : Indication - Pain

Rx

Medical – Endoscopic – Surgical

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Schematic representation of the conceptual framework of pain mechanisms in chronic pancreatitis.

Talukdar R et al World J Gastroenterol 2013

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Pancreatic Stone Extraction



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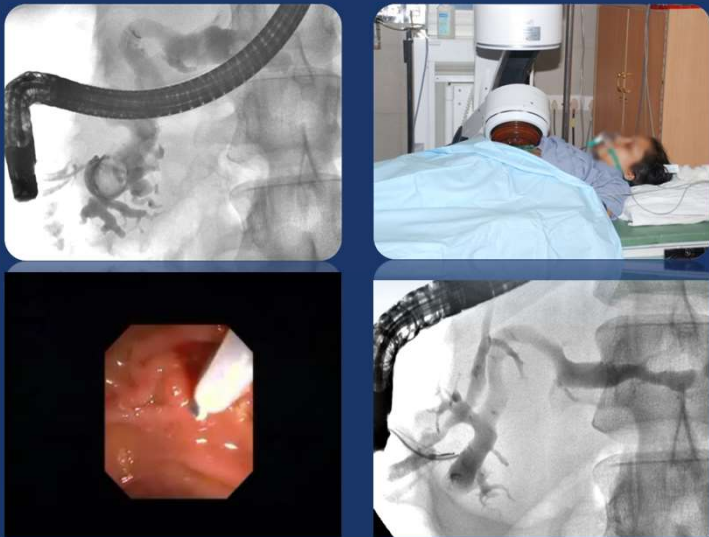
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Chronic Calcific Pancreatitis - ESWL



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Endoscopic treatment of chronic pancreatitis: European Society of Gastrointestinal Endoscopy (ESGE) Clinical Guideline

ESGE

Authors J.-M. Dumonceau¹, M. Delhaye², A. Tringali³, J. E. Dominguez-Munoz⁴, J.-W. Poley⁵, M. Arvanitaki², G. Costamagna³, F. Costea⁶, J. Devière², P. Eisendrath⁷, S. Lakhtakia⁸, N. Reddy⁸, P. Fockens⁹, T. Ponchon¹⁰, M. Bruno⁵

For treating patients with uncomplicated painful chronic pancreatitis and radiopaque stones ≥ 5 mm obstructing the MPD, the ESGE recommends ESWL as a first step, immediately followed by endoscopic extraction of stone fragments

Evidence level 1+ Recommendation grade B

Endoscopy 2019

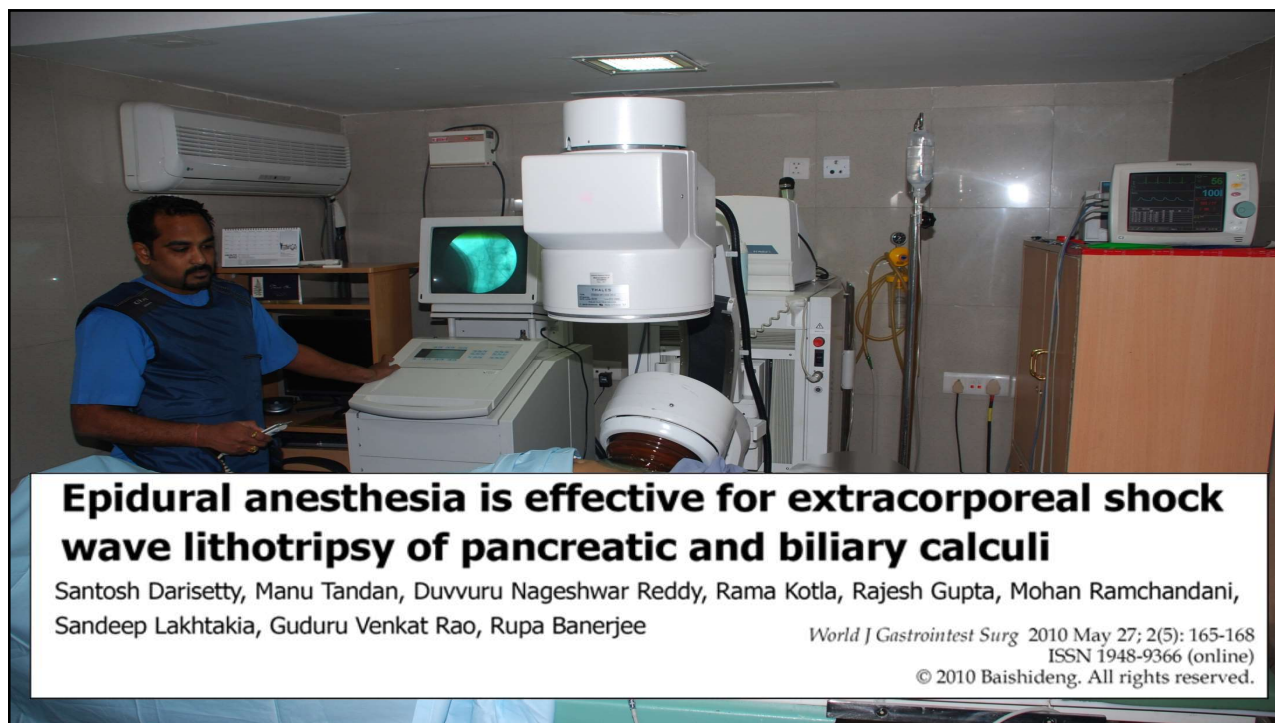
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Factors influencing Success Rate

- Patient Factors**
 - Stone Size & Density
 - Presence of Stricture
 - Duration of Disease
 - Use of Narcotics
- Technical Factors**
 - Operator Experience
 - Type of Lithotripter
 - Epidural Anesthesia
 - Use of Secretin

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Epidural anesthesia is effective for extracorporeal shock wave lithotripsy of pancreatic and biliary calculi

Santosh Darisetty, Manu Tandan, Duvvuru Nageshwar Reddy, Rama Kotla, Rajesh Gupta, Mohan Ramchandani, Sandeep Lakhtakia, Guduru Venkat Rao, Rupa Banerjee

World J Gastrointest Surg 2010 May 27; 2(5): 165-168
ISSN 1948-9366 (online)
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Obtained after a median of 1 session with the high power, X-ray focused machines

Courtesy : Prof . Jacques Devière

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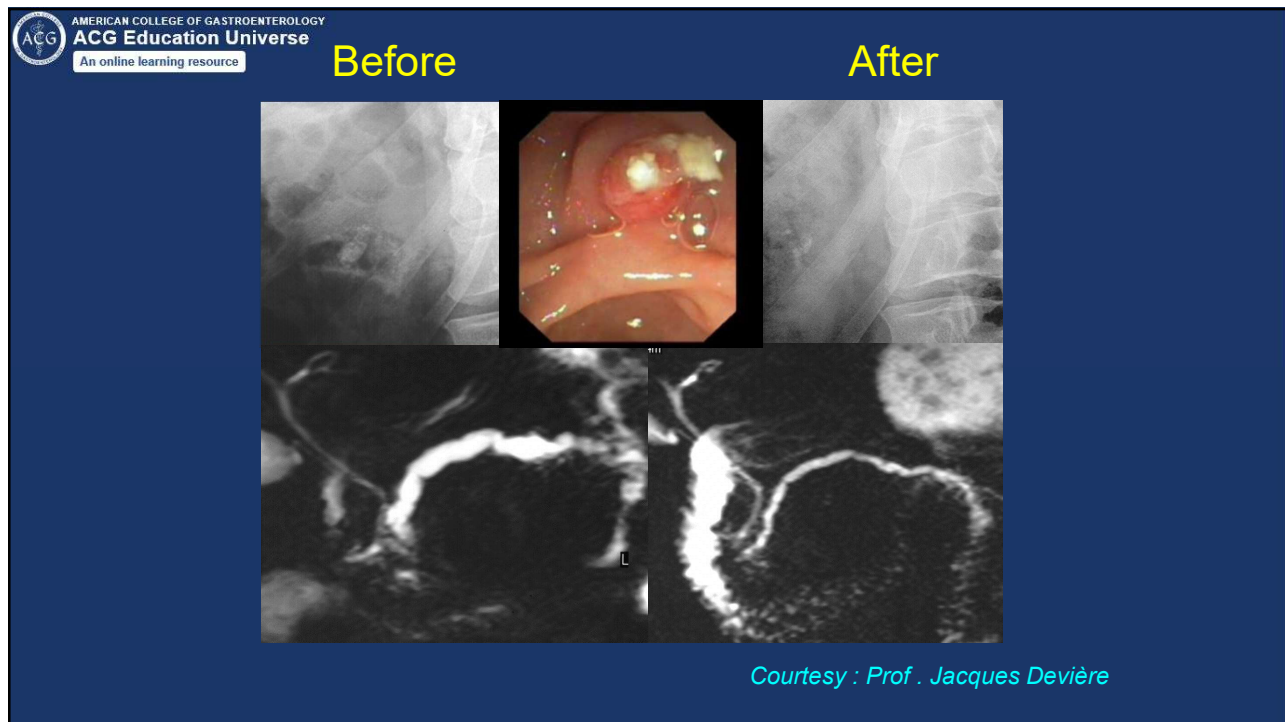
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Fragmenting Pancreatic Stones

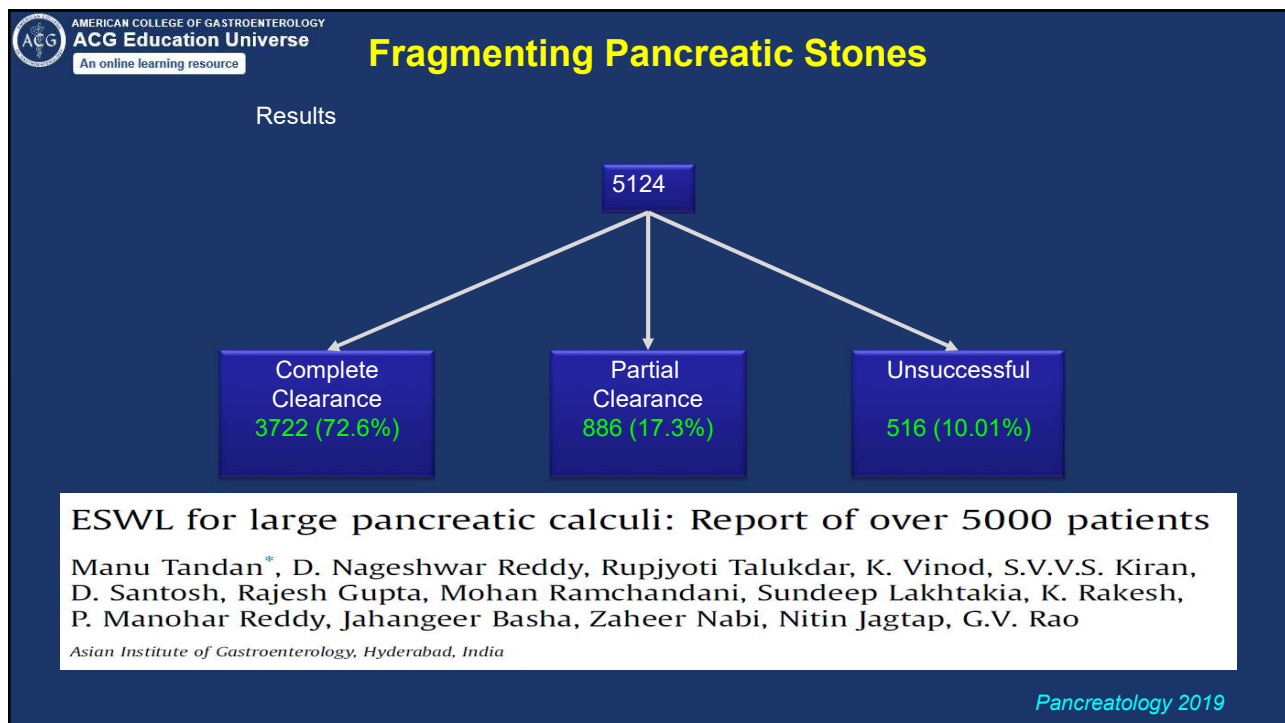


Pre ESWL Post ESWL

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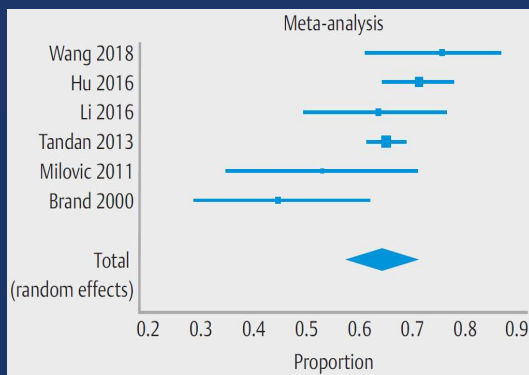


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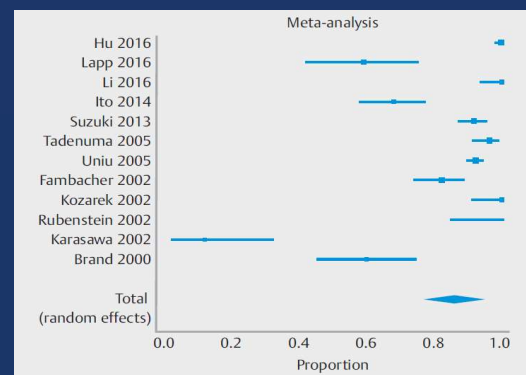
Success of extracorporeal shock wave lithotripsy and ERCP in symptomatic pancreatic duct stones: a systematic review and meta-analysis

Authors

Nadine C.M. van Huijgevoort^{*.1}, Joyce V. Veld^{*.1}, Paul Fockens¹, Marc G. Besselink², Marja A. Boermeester², Marianna Arvanitakis³, Jeanin E. van Hooft¹



Pooled proportion of patients being completely pain free after ESWL 64.2 %



Pooled proportion of stone fragmentation 86.4%

Endoscopy 2020

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CLINICAL GASTROENTEROLOGY AND HEPATOLOGY 2012;10:795-802

Endoscopic Therapy Is Effective for Patients With Chronic Pancreatitis

BRIDGER CLARKE,* ADAM SLIVKA,* YUTAKA TOMIZAWA,* MICHAEL SANDERS,* GEORGIOS I. PAPACHRISTOU,*[‡] DAVID C. WHITCOMB,*[§] and DHIRAJ YADAV*

*Department of Medicine, and [§]Department of Human Genetics, University of Pittsburgh; and [‡]Veterans Administration Hospital, Pittsburgh, Pennsylvania

	to ET	P value
Age at diagnosis, y ^a		.10
Constant pain, n (%)		.031
Daily narcotics, n (%)		.001
Duration of disease, mo		.017

Endotherapy effective

- Head stones
- Disease duration < 5years
- Intermittent pain
- No narcotic use
- Non smokers / non alcoholics

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Endotherapy for Chronic Pancreatitis Long term Clinical Outcomes

56 patients with constant (N=25) or relapsing (N=31) pain treated between 1987 and 1989 and followed for 14.4 years

Annual rate of hospitalization for pain/ stent exchange

Time Period	Annual Rate
Before treatment	~0.95
First 3 years	~0.4
Last 11 years	~0.1

Delhaye et al Clin Gastroenterol Hepatol 2004

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ORIGINAL ARTICLE

Long-term clinical outcomes of extracorporeal shockwave lithotripsy in painful chronic calcific pancreatitis

Manu Tandan, DM, D. Nageshwar Reddy, DM, Rupjyoti Talukdar, MD, K. Vinod, MD, D. Santosh, MD, Sundeep Lakhtakia, DM, Rajesh Gupta, DM, Mohan J. Ramchandani, DM, Rupa Banerjee, DM, K. Rakesh, DNB, G. Varadaraj, DNB, G. Venkat Rao, MS
 Hyderabad, India

	Intermediate follow up	Long term follow up
Patients	364	272
Follow up	2 – 5 years	5 – 8 years
Complete pain relief	68.7%	60.3%
Mild to moderate pain	25.8%	35.3%
Severe pain	5.5%	4.4%
Reintervention	28.8%	46.7%
Stone recurrence	14.1%	22.8%

Tandan M et al Gastrointest Endosc 2013

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Pancreatic Stone Management Problems With ESWL

- Not broadly available
- Dependent on others (urology)
- Reimbursement issues

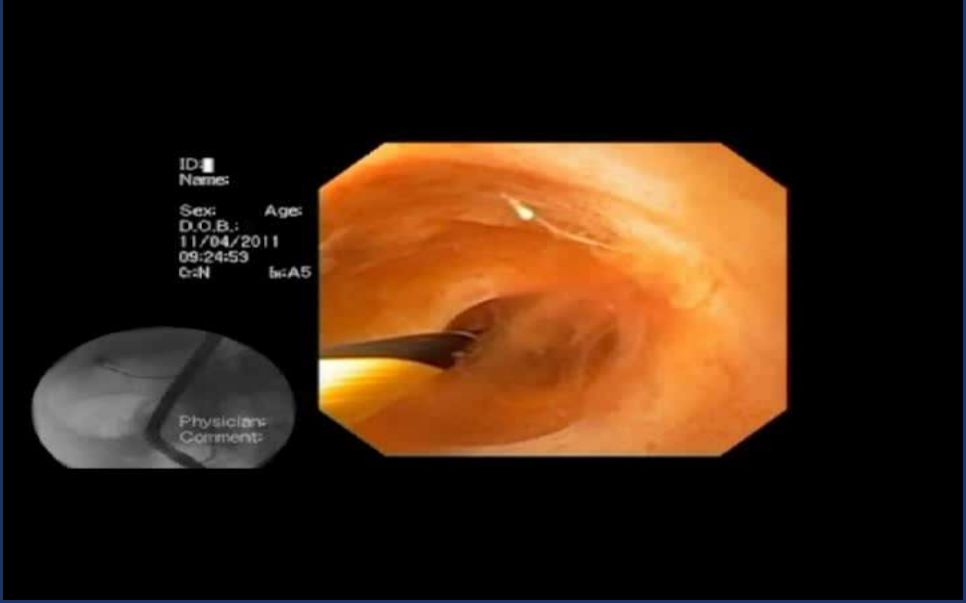
Comparison of Urologist- vs Gastroenterologist-Directed Extracorporeal Shock Wave Lithotripsy for Pancreaticolithiasis
Clin Gastroenterol Hepatol. 2021

> Improved Duct clearance

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Intraductal Lithotripsy



ID: [redacted]
 Name: [redacted]
 Sex: [redacted] Age: [redacted]
 D.O.B.: 11/04/2011
 09:24:53
 C: N [redacted] [redacted]

Physicians:
 Comment:

Mansour A et al Gastroenterology 2013

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Intraductal Lithotripsy with Laser




The image shows an endoscopic view of a pancreatic duct. A blue laser lithotripsy probe is positioned against a stone. A smaller inset image in the bottom left shows a close-up of the stone, which is reddish and irregularly shaped.

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Pancreatic Stone Management Problems With ESWL



The image shows an endoscopic view of a pancreatic duct. A blue laser lithotripsy probe is positioned against a stone. A smaller inset image in the bottom left shows a close-up of the stone, which is reddish and irregularly shaped.

**Pancreatoscopy
EHL / LL**

- ↑ Availability
- One session
- No dependency

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Stone Management: Intraductal lithotripsy


Peroral Pancreatoscopy (POP) Guided lithotripsy

- 1999-2020 cases published: 16 studies 383 cases
- Technical / clinical success rate: 37,5%-100%, 76%
- Adverse Event rate: 0%- 30%, 7%
- No difference LL or EHL
- Very heterogenous, mostly retrospective data, mixed population and devices, mostly short FU for clinical success.

Syed M Saghir et al World J Gastroenterol 2020

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A comparative study between single-operator pancreatoscopy with intraductal lithotripsy and extracorporeal shock wave lithotripsy for the management of large main pancreatic duct stones


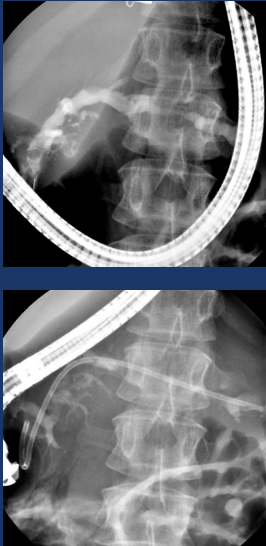
Benjamin L. Bick¹  · Feenalie Patel² · Jeffrey J. Easler¹ · Yan Tong³ · James L. Watkins¹ · Lee McHenry¹ · Glen Lehman¹ · Evan L. Fogel¹ · Mark A. Gromski¹ · Stuart Sherman¹ *Surgical Endoscopy 2021*

	ESWL N:240	SOPIL N:18
Stone clearance	86%	88%
Adverse event	6.3%	5.6%
No of procedures	3.1	1.6


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Pancreatic Strictures



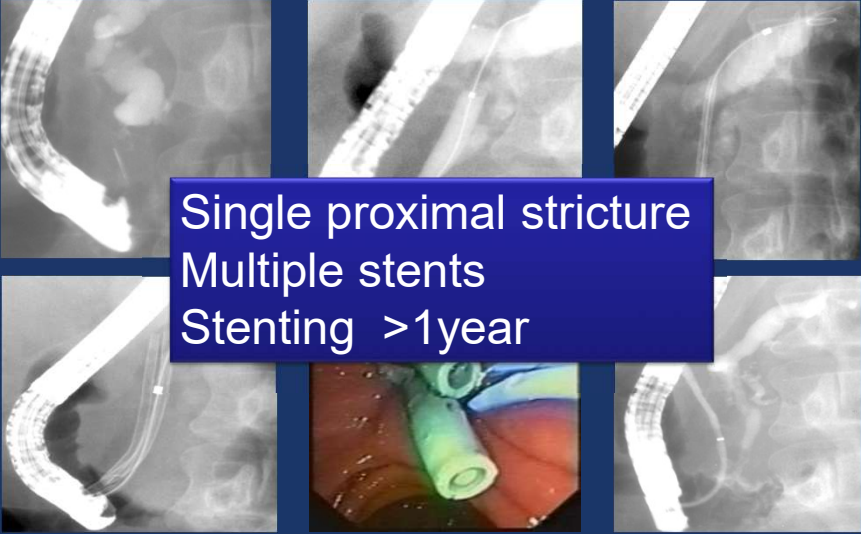
Cremer Pancreatic Stent



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Multiple Pancreatic Stents





Single proximal stricture
Multiple stents
Stenting >1year

Courtesy : Prof. Guido Costamagna

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CSEMS for Pancreatic Stricture (Bumpy Stent)

32 patients – 3 months – 100% resolution

Sung-Hoon Moon et al Gastrointest Endosc 2010

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EUS Therapy in Pancreatic Pain

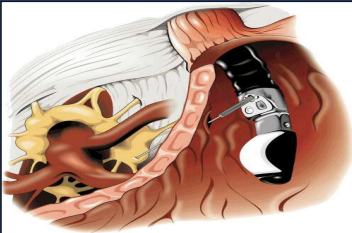

- Celiac ganglion
- PPFC drainage
- Pancreatic ductal drainage
- Rendezvous technique

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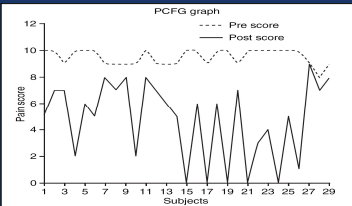
AP&T Alimentary Pharmacology and Therapeutics

Clinical trial: a randomized trial comparing fluoroscopy guided percutaneous technique vs. endoscopic ultrasound guided technique of coeliac plexus block for treatment of pain in chronic pancreatitis

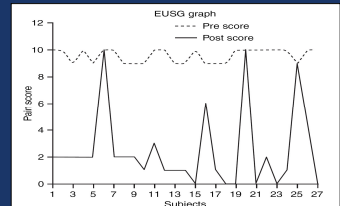
D. SANTOSH*, S. LAKHTAKIA†, R. GUPTA†, D. N. REDDY†, G. V. RAO†, M. TANDAN†, M. RAMCHANDANI† & N. M. GUDA†

PCFG graph



EUSG graph



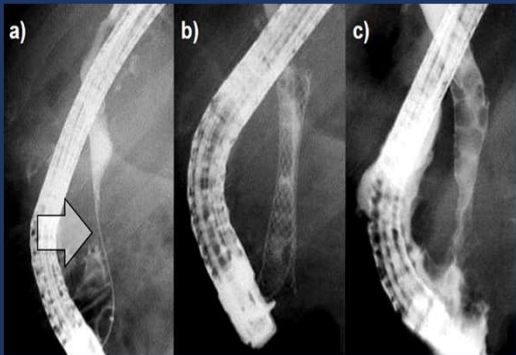
Aliment Pharmacol 2009

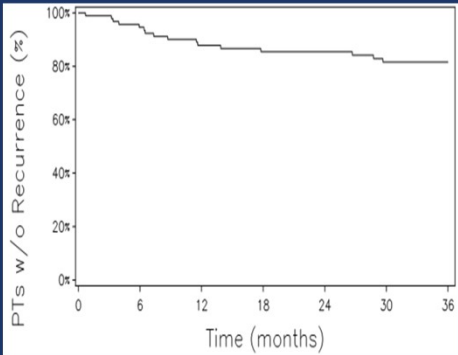
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Successful Management of Benign Biliary Strictures With Fully Covered Self-Expanding Metal Stents

Jacques Devière, D. Nageshwar Reddy, Andreas Püspök, Thierry Ponchon, Marco, J. Bruno, Michael J. Bourke, Horst Neuhaus, André Roy, Ferrán González-Huix, Iladó, Alan N. Barkun, Paul P. Kortan, Claudio Navarrete, Joyce Peetermans, Daniel Blero, Sundeep Lakhtakia, Werner Dolak, Vincent Lepilliez, Jan W. Poley, Andrea Tringali, Guido Costamagna





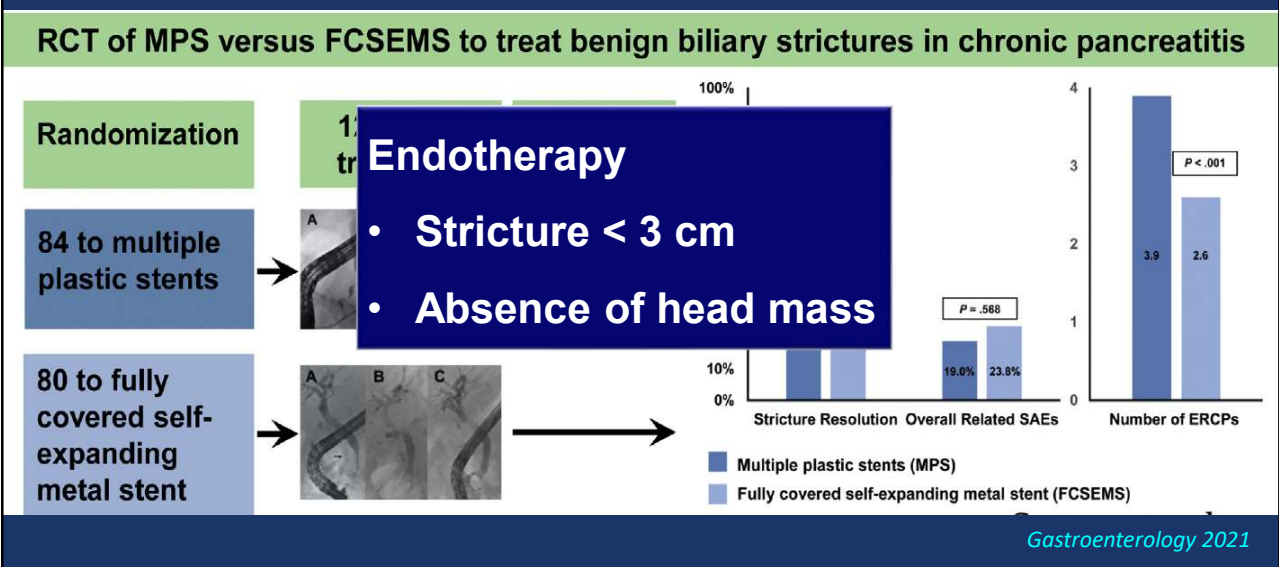
Chronic Pancreatitis

Gastroenterology 2014

32

Fully Covered Self-Expanding Metal Stent vs Multiple Plastic Stents to Treat Benign Biliary Strictures Secondary to Chronic Pancreatitis: A Multicenter Randomized Trial

Mohan Ramchandani, Sundeep Lakhtakia, Guido Costamagna, Andrea Tringali, Andreas Püspöck, Barbara Tribi, Werner Dolak, Jacques Devière, Marianna Arvanitakis, Schalk van der Merwe, Wim Laleman, Thierry Ponchon, Vincent Lepilliez, Armando Gabbrielli, Laura Bernardoni, Marco J. Bruno, Jan-Werner Poley, Urban Arnelo, James Lau, André Roy, Michael Bourke, Arthur Kaffes, Horst Neuhaus, Joyce Peetermans, Matthew Rousseau, D. Nageshwar Reddy



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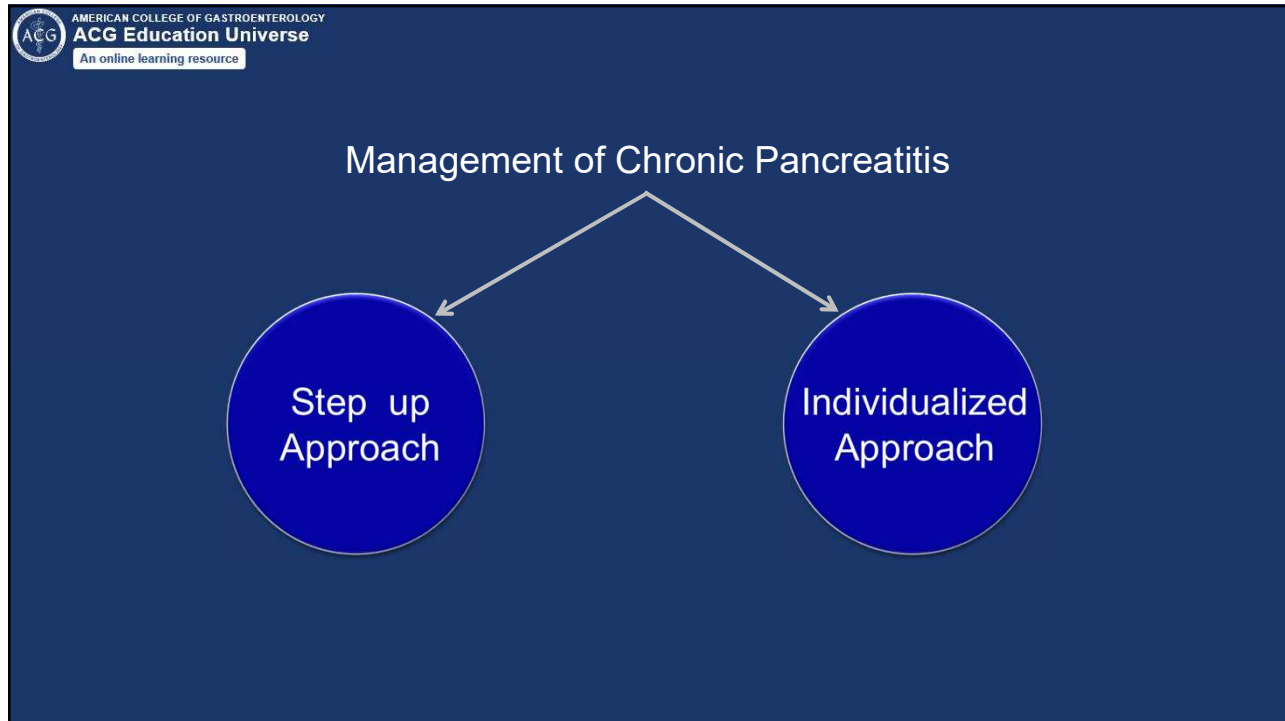
Treatment of Chronic Pancreatitis Endotherapy vs Surgery

Endoscopic vs. Surgical Interventions for Painful Chronic Pancreatitis: What is Needed for Future Clinical Trials

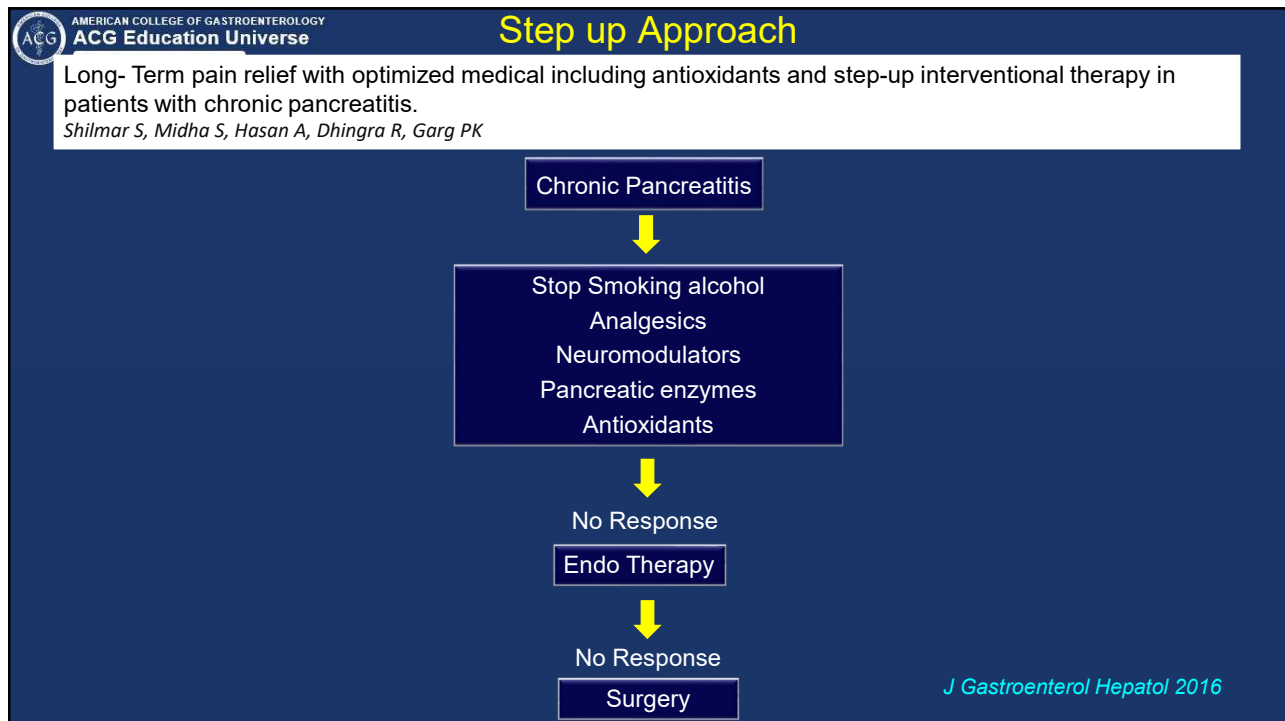
John A. Windsor, MD¹ and Nageshwar D. Reddy, MD²

Citation: Clinical and Translational Gastroenterology (2017) 8, e2133. doi:10.1038/ctg.2016.68
© 2017 the American College of Gastroenterology 2155-384X/17
www.nature.com/ctg

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Endoscopic versus Surgical Drainage of the Pancreatic Duct in Chronic Pancreatitis

Djuna L. Cahen, M.D., Dirk J. Gouma, M.D., Ph.D., Yung Nio, M.D., Erik A. J. Rauws, M.D., Ph.D., Marja A. Boermeester, M.D., Ph.D., Olivier R. Busch, M.D., Ph.D., Jean Stoker, M.D., Ph.D., Johan S. Laméris, M.D., Ph.D.,

CONCLUSIONS: In the long term, symptomatic patients with advanced chronic pancreatitis who underwent surgery as the initial treatment for pancreatic duct obstruction had more relief from pain, with fewer procedures, than patients who were treated endoscopically. Importantly, almost half of the patients who were treated with endoscopy eventually underwent surgery.

Lo
Pa

DJUNA L. CAHEN,* DIRK J. GOUMA,[§] PHILIPPE LARAMÉE,^{||} YUNG NIO,[¶] ERIK A. J. RAUWS,[‡] MARJA A. BOERMEESTER,[§] OLIVIER R. BUSCH,[§] PAUL FOCKENS,[‡] ERNST J. KUIPERS,* STEPHEN P. PEREIRA,[#] DAVID WONDERLING,^{||} MARCEL G. W. DIJKGRAAF,** and MARCO J. BRUNO* *GASTROENTEROLOGY* 2011

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Stone Management: Intraductal lithotripsy

ESCAPE Trial (RCT surgery vs. Endoscopy N=88)

Figure 3. Izbicki Pain Score During 18 Months of Follow-up; Effect of Endoscopic Duct Clearance

LEGEND:
 — Endoscopy-first approach (figure A)
 — Endoscopy-first approach with Duct Clearance (figure B)
 — Endoscopy-first approach without Duct Clearance (figure B)
 — Early Surgery (figure A + B)

Mean Izbicki pain score is presented per arm for every month during the 18 months' follow-up. The Izbicki pain scores ranges from 0 to 100.

Courtesy Christian Gerges

Issa, Yet al.; JAMA 2020

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Endoscopic vs. Surgical Interventions for Painful Chronic Pancreatitis: What is Needed for Future Clinical Trials

John A. Windsor, MD¹ and Nageshwar D. Reddy, MD² *Clinical and Translational Gastroenterology 2017*

Problems with studies for endotherapy of chronic pancreatitis

- Quality and limitations of the studies
- Heterogeneity of patient population

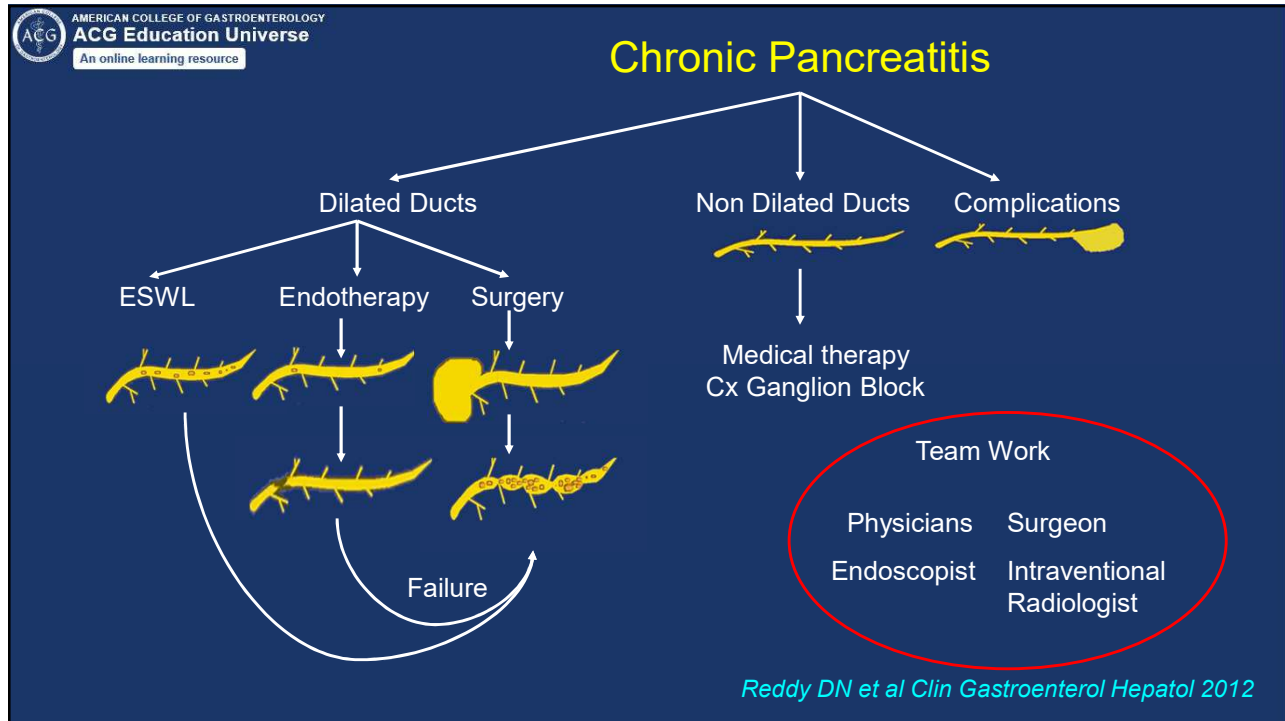
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What do we need

- Adequate tools to assess pain
- Sham controlled studies
- Prior drug therapy
- Confounders – alcohol, smoking
- Timing of intervention
- Long term outcome studies

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Questions?



Dr. Reddy



Dr. Guda



Dr. Goenka