

**BroadcastMed | nyw\_gustout---how-to-set-up-an-effective-developmental-endoscopy-laboratory-and-program-1080p.mp4**

CHRISTOPHER J. GOSTOUT: Well, good morning. It's 10th year, pleasure to be here. This course remains totally unique. It's really a gem in the evolving world of endoluminal and transluminal intervention. It really is a gem. So it's fantastic to stand here and anticipate what we're going to be seeing throughout today, and it will be a busy day, and hopefully with the unique faculty we have here, you're going to learn quite a bit.

Every year, I'm always amazed at what Stavros comes up with for me to present for the Pete Stevens lecture, and this one actually is a little bit of a memory trip for me, or it's an expose of my alternative pathway in endoscopy. These are my conflicts of interest. I put CJ there because until I entered the world of medicine, I had other names, but most people call me CJ for some reason. But my two conflicts are my consulting work with the Olympus Corporation and my position as the Chief Medical Officer for Apollo Endosurgery.

So what am I hoping to accomplish in the next 15 minutes? I'm going to give you some concepts and goals of developing an endoscopy program to bring new ideas onto the scene. How do you initiate the program? What kind of activities should be expected if you're interested in pursuing this? How do you measure your productivity? What characterizes growth?

So evolution in endoscopy continues despite hurdles. We have phenomenal hurdles that we have to face to keep endoscopy moving in the lumen and outside the lumen, most of which is shrinking reimbursement. There is incredible resistance by third party payers to accept endoluminal therapies, especially new endoluminal therapies. This is a monster roadblock. All of us have increased clinical demands. If we want to maintain a role of academic endoscopist, which constantly deflects you from your path of innovation.

Development has an incredibly high cost and a very long turnaround time. If you have a unique, out-of-the-box idea, and you want to bring it out to clinical practice, you have to anticipate eight to 10 years of time to have this actually take hold and become accepted in the community. That's a long time to hold your breath. There is unfortunately, a very limited amount of capital for investment in the GI procedural space, and that's because alimentary diseases have a relatively low impact in the public eye.

And so investors are very willing to look at cancer therapies, cardiac therapies, but they're starting to change their attitude. They're also now getting interested in unique therapies. And this is our nose in the tent, our foot in the door. And we're also impacted by major corporations. So major corporations establish strategies. And if what you're doing doesn't fit into their strategy, it's probably not going to go anywhere, or it will get mothballed.

Societies, professional societies have their own strategies, which can sometimes blunt development in endoscopy, because they need to cater to the general practitioner what their everyday needs are, as opposed to shooting them up into the future, into outer space. And finally, the government. The government sets policies. The NIH has to follow what the politicians want, and they also have to limit their funds into some of the areas which they are solely or uniquely interested in themselves, and not extend beyond that. So we have a lot of hurdles to move forward endoluminal intervention.

There are hot areas, and that's what you need to spend time thinking about, what is a hot area? What are the real needs? As you've heard already, greater invasiveness. The gut wall is no longer a limiting factor. On block excision, you're going to see it done today. How can it be done better? Internal drainage of all kinds of collections. Most of those are post-operative issues. Hybrid interventions for salvage and primary indications. Primary bariatric procedures are really hot right now. Image guided interventions, and here I'm talking about EUS, and angio therapy, tumor ablation, connecting parts of the GI tract with other parts of the GI tract, and also enhancing access to the small bowel.

IBD dysplasia management is a pretty hot area that has got room for growth, and I'm still advocating for endolumenal magnets. I'm hoping, I'm hoping that in the years to come, we're going to see some more use of endolumenal magnets. So let's get to the endoscopic research program. The developmental endoscopy unit. What the heck is this? What are the concepts? What are the goals?

So a developmental endoscopy unit is an entity. It's designed to move endolumenal procedures forward. It has to be interactive. It has to interact with all levels of an institution, administration, and all of the other subspecialties, because the benefits of this activity should spill into other disciplines. It should give a greater awareness to surgeons, to gynecologic surgeons, and urologists, and interventional radiologists as to what's going on, where it's going on, and how it can be better managed.

You have to decide on whether you're going to focus on a single bucket, very focused pathway, or are you going to have multiple buckets? Clinical, animal based, or truly biomechanical. The intent is to elevate the stature of the person who is running the show. That's the physician, and most importantly the institution. It will also drive the practice. It makes you more desirable, and makes people more aware of what you can offer by what you can produce in your experiments.

The mantra for any developmental endoscopy unit is to avoid complacency. So you continually need to move forward. If you're on to something, refine it, but keep going. Keep thinking of something else. How do you create one? Money. That's the bottom line is you need money. What does it cost to run an effective, productive endoscopic developmental unit? It costs about \$200,000 a year. That's what you're going to need on a yearly basis to handle the operation, handle the personnel. You're going to need institutional buy in. They're going to need to support you all the way, and that means giving you some space probably.

It's not a housing unit. It's not a standalone place. It's got probably multiple locations, and that's where the institutional support is going to be needed because you're going to be here and there with presence. You need a body of personnel. You need a coordinator, manager. You need at least two trained nurses, that are not only familiar with endolumenal endoscopy, but have surgical familiarity. And you're going to eventually need fellows. You're going to need equipment that includes both flexible endoscopy and surgical tools. You have to have laparoscopic equipment available.

And most importantly, you need time for blue sky thinking. You've got to be able to sit back, put your feet up on the desk, and come up with ideas, and try to identify what needs to be done to make life better in the delivery of endolumenal care. So it's a unit. It may not be a physical unit, but it's a unit that requires administration, planning, scheduling, ordering, and meetings. Labs. In time, labs are a delegated activity. That's where the fellows and the really high level personnel come in, because they can be running labs with scheduled regularity. And scheduled regularity is really important for the institution to be aware that you exist, and most importantly for the other specialties to be aware of what you're doing.

And so you have to network continually. You have to network with surgeons. You have to network with veterinary medicine. There may be some things you want to do that you can't do in an animal model, and they should be able to tell you. They should also be able to tell you which animal model is best suited for the particular activity you're trying to develop, and you also have to interact with anatomists, because anatomy is really key in developing endolumenal and translumenal procedures.

So the process, again, is anatomy. You have to know anatomy inside and out cold. You have to do ex vivo tests of principle. If you have an idea, you want to develop a new over tube, you got to play around with the benchtop. You have to then move on to a live acute study. You may need to interrupt your development process and switch over to a different model, such as cadavers. Cadavers sometimes can direct you to the true answer that you're needing, and then you go on to do what we call survival animal studies, but with pathology for further proof of principle.

So how do you identify productivity? First of all, it's a long road for original work, and that challenges the ability to try or think one's being productive. You do corporate sponsored research, because that gives you immediate satisfaction. You arrive at end points that are usually tighter. You have to make your presence through abstracts, creating all kinds of abstraction, all kinds of meetings, manuscripts, obviously, and presentations. Those are the key elements for productivity.

Growth is measured by your own protected time. How much protected time can you develop over the years? Because that will actually guarantee you success. Publication and presentations are paramount. And eventually because of your networking, there will be industry word of mouth, that you exist, and that you have done some cool things, and that you can accomplish tasks pretty well. Those will give you new opportunities, which are the most important measure of growth.

And as a side measure, the number of applications you get for research fellowships. And then finally growth can be measured by your war chest. As I mentioned, you need 200 grand a year to run a really effective endoscopic research and development operation. Some of the projects that you do will have leftover funds, and your institution, in supporting you, should allow you to keep those funds, so you can develop an eventual war chest that may allow you to really jump into a totally novel and out-of-the-box idea for which nobody is willing to support, but you'll have to support yourself.

So in conclusion, a developmental endoscopy unit is achievable. It can be immensely satisfying, and most importantly, it can be beneficial to all, meaning patients, as well as your colleagues. We need more of these. So hence the reason for me standing up here and pitching this, and if you've got the energy, and you've got the time, my suggestion is that you go for it.

So this as a backdrop to conclude my presentation. This was taken a couple of weeks ago. This is a snowshoe track up by my cabin in Northeast Minnesota. That's not my shoot. I was up there with a buddy of mine from the '60s, Killer. So we all have nicknames. They call me CJ now. Back in the '60s. I was thrown in with a squad of unlucky, unlucky guys and eventually one of those guys was Killer, and I was Ace during the '60s. That actually prevailed through college. Then I went back to being Chris, and then in medicine, CJ, and that's my story of a developmental endoscopy unit. Thank you very much.