MINT

Minimally Invasive New Technologies

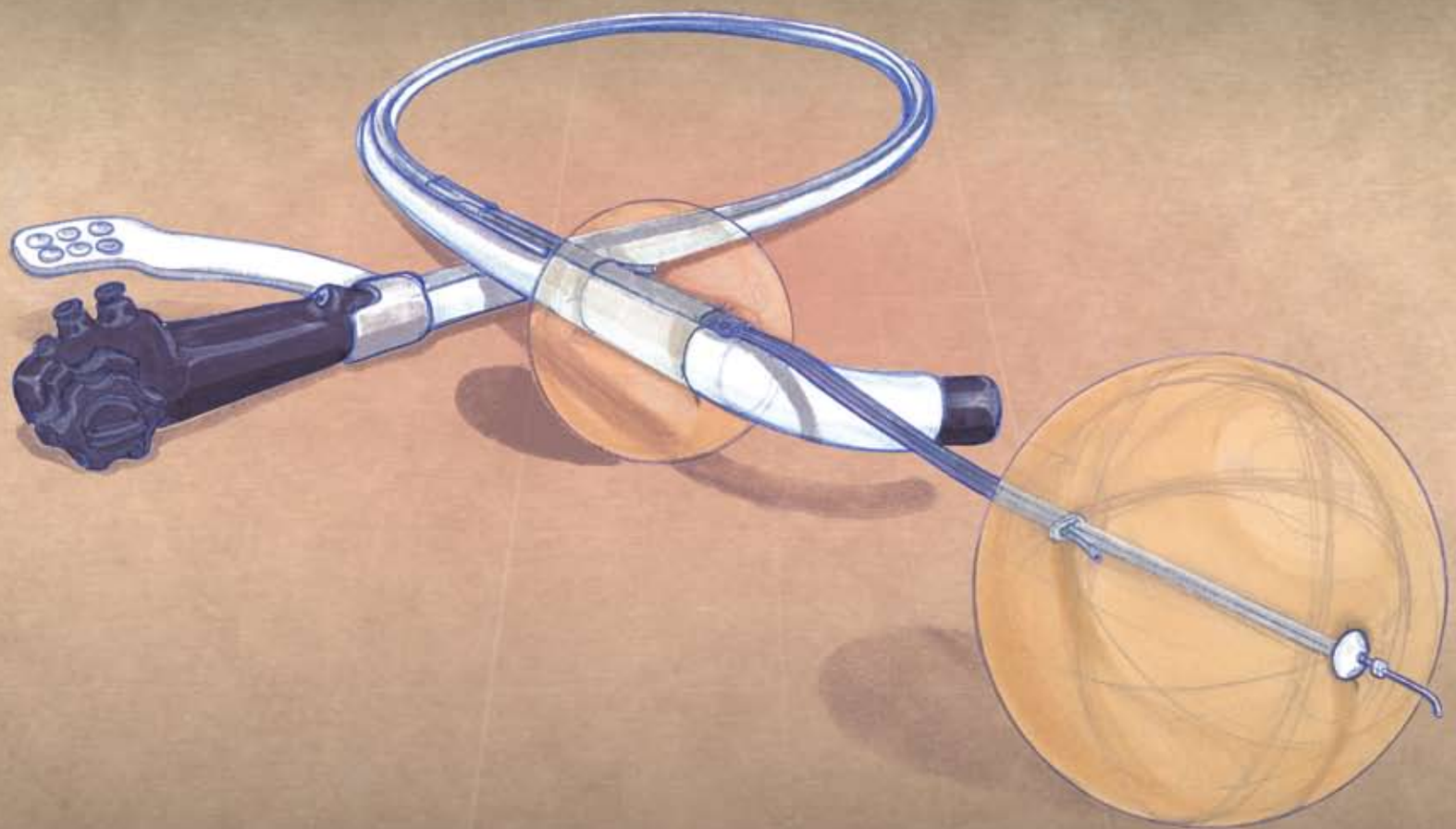
Advancing minimally invasive therapeutics through novel device development

NewYork-Presbyterian
Weill Cornell Medical Center

Weill Cornell Medical College

THE LEONA M. AND HARRY B. HELMSLEY CHARITABLE TRUST

Minimally Invasive New Technologies Program



The Minimally Invasive New Technologies (MINT) Program is an innovative collaboration between NewYork-Presbyterian Hospital and Weill Cornell Medical College. Through the MINT program, clinicians and engineers develop technologies that advance minimally invasive surgery at NewYork-Presbyterian and beyond.

The Minimally Invasive New Technologies (MINT) Program
Inspired Ideas Brought to Life.

Inspired Ideas Brought to Life: this is the spirit that drives the MINT program – an innovative collaboration between NewYork-Presbyterian Hospital and Weill Cornell Medical College. The program's mission is to develop and bring to market medical devices that will revolutionize the way minimally invasive surgery is performed – providing more efficient, effective, and targeted treatment options for patients world-wide.

Within the non-profit setting, MINT leverages the creativity and experience of practicing world-class clinicians combined with the knowledge of leading industry experts- from biomedical engineers and biomaterials pioneers to intellectual property experts and business developers. This collaborative, idea-generating environment helps fuel the development of technologies that will transform minimally invasive treatment of gastrointestinal and cardiovascular conditions, and beyond.

The MINT Process

A structured and rigorous development process guides MINT inventions. From an idea conceived in the operating room, interventional suite, or MINT boardroom, the team evaluates and refines concepts – incorporating clinical, engineering, intellectual property, and business strategy perspectives at each phase of the process.

Phase 0: Uncovering Unmet Clinical Needs

Phase 1: Concept Generation

Phase 2: Device Development and Testing

Phase 3: Commercialization

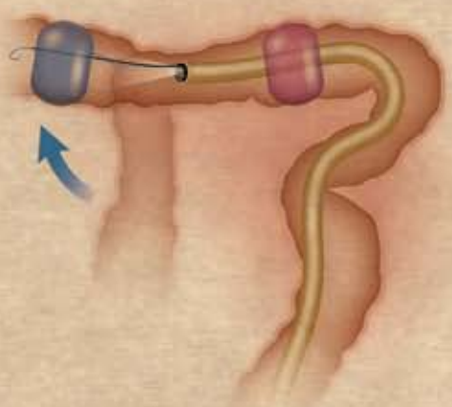
Clearly defined goals and milestones at each phase enable the MINT team to evaluate project progress and the value created throughout the development process.

Scientific and financial advisory boards review both new and ongoing projects and provide valuable input that guides technical and business development, such as: design, concept novelty and patenting, regulatory and reimbursement strategies, proof of concept and preclinical studies, clinical trials, and commercialization.

Examples of Current Projects

Endoluminal Surgical Platform (ESP)

Current endoscopes provide diagnostic and basic therapeutic capabilities widely used in medicine today, however scope instability within the intestine has prevented clinicians from using endoscopes as true surgical tools. The MINT team has developed an adjunct device to current endoscopes that enables clinicians to create an isolated, stable, and manipulatable zone to enhance visualization and therapeutic capability of the scope. This current iteration of ESP is just the beginning – this stabilized zone will become a surgical platform supporting new MINT-developed intestinal procedures performed entirely within the channel of the intestine – creating a complete paradigm shift in gastrointestinal surgery.

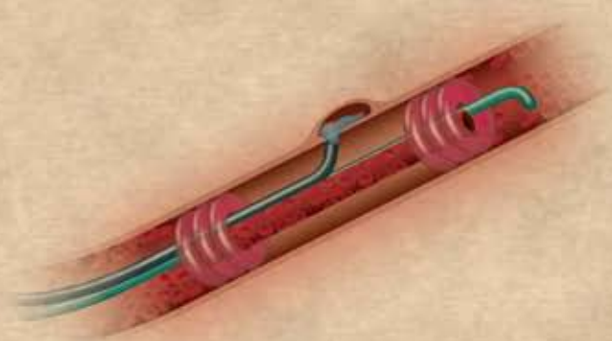


Spider Silk

The MINT team is developing a series of novel medical devices based on Spider Silk. Through MINT's partnership with UK-based Oxford Biomaterials, MINT is using this incredibly strong, flexible, and chemically tunable biomaterial to develop new vascular grafts. While many currently available vascular grafts fail shortly after implantation, MINT's Spider Silk grafts promise to better match native vessel properties, better integrate with body tissue, and better resist infection – all common problems with current grafts. MINT's arteriovenous access graft in particular represents a potential quantum leap beyond current graft alternatives available to the growing dialysis patient population. The MINT team is also investigating the application of Spider Silk graft technology to several additional markets, including small diameter vascular grafts and vascular patches.

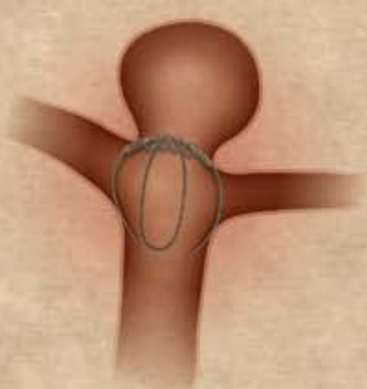
Zone Isolation and Bypass System

To treat vascular trauma and diseases, the MINT team is developing a unique device that isolates a segment of vessel for endovascular repair while maintaining blood flow to distal arteries. The Zone device permits for the first time true endolumenal vessel repair, made possible by a working channel through which clinicians can introduce endovascular tools to the injury site. Zone also functions as a triage device that can be inserted percutaneously to prepare a patient for transport to a center for advanced treatment.



Spherical Device for Cerebral Aneurysms

Stenting and coiling are two common endovascular treatments for many types of cerebral aneurysms. However, complex aneurysm geometries or aneurysms located at arterial bifurcations are not adequately treated with existing devices and often require open cranial procedures, which carry with them significant patient risks. The MINT team developed a spherical-shaped device that is ideally suited to treat bifurcation aneurysms and other challenging geometries, redirecting blood flow away from the aneurysms to allow healing. Clinicians can deliver, retrieve, and reposition the Sphere endovascularly, providing significant advantages over stenting and coiling for all aneurysm types.



MINT Program
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