

BartonHealthcareSM
CONSULTING ENGINEERS



We Make Buildings WorkSM

Surgical | Emergency | Outpatient Surgical | **Treatment/Diagnostic** | Nursing
Patient Support Services | Medical Offices | General Support Services | Senior Living



York | State College | Pittsburgh
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We Make Buildings WorkSM

Barton Healthcare has provided MEP design services for numerous new and/or renovated **treatment/diagnostic** services projects including MRI, CT, linear accelerator, hyperbaric and Intensity Modulated Radiation Therapy (IMRT). We understand the design challenges of the MEP systems for medical **treatment/diagnostic** facilities and specifically consider the following:

- Impacts of Lighting Type & Control on Clinical Diagnosis
 - Power Quality
 - Medical Gas/Vacuum Accessibility
 - Space Temperature & Humidity Control
 - Video & Voice Communication

Barton Healthcare's team is focused on the healthcare industry and the highly technological equipment that clinicians rely on to accurately diagnose and treat patients. We understand the critical MEP needs of these facilities and their specialized medical equipment and provide a collaborative design approach that addresses the needs of the clinicians and patients.



Our experienced engineers understand that the proper design and coordination of MEP systems are critical to the operation of diagnostic and treatment equipment. Whether it is coordinating the size and route of a cryogen vent for an MRI or designing a specialized HVAC system to provide cool and dry room conditions in an Intensity Modulated Radiation Therapy (IMRT) vault, you can be assured that our team will ask the pertinent questions and perform the due diligence necessary to develop MEP solutions that support the operational needs of the equipment. Our team also understands the importance that video and voice system integration, medical gas locations and lighting layout and controls play in the clinicians' ability to provide high level service to their patients. We work closely with the architect and clinical staff to provide MEP design solutions that integrate with the functional and artistic design that create the total patient experience.

If you are planning a treatment or diagnostic services project, it is paramount to have an engineering partner who understands the specific requirements of today's medical equipment. Barton Healthcare's market-focused experience provides you a level of assurance knowing that you have a team who will ask the right questions to provide the best engineering solution.



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LGH Suburban Outpatient Pavilion | Lancaster, PA Tomotherapy Suite 8,525 sq. ft. | \$1.2 million | June 2009

Barton Healthcare provided mechanical, electrical and plumbing design services for renovations of approximately 5,000 square feet of existing space for a Hybrid MRI Suite located in the Weinberg Building. The project consisted of a General Electric (GE) 3-Tesla (3T) MRI unit, an Insightec Ex-ablate 4000 Focused Ultrasound, and a Magnetic Hyper-polarizer ("Spin Lab"), also by GE, for use in patient care and clinical research. Barton was the prime design professional and responsible to lead the Architect and Structural engineer in this demanding and fast paced project.

The architectural planning and engineering of this specific imaging suite and its associated cutting edge technologies had unique challenges such as three nearby elevators, an immediately adjacent electrical substation, low floor to floor height, multiple physical obstructions presented by critical existing mechanical systems that were immovable, and suspending a magnetic shielding system beneath the magnet over the Bio Medical Engineering office suite on the occupied floor below.

The completion of this project brings these three technologies together in the same suite for the very first time in medical history. Their coordinated use will undoubtedly have an impact on the future of imaging technologies and wave therapies providing healing and improved quality of life for patients from all walks of life.





LGH Suburban Outpatient Pavilion | Lancaster, PA
Tomotherapy Suite
8,525 sq. ft. | \$1.2 million | June 2009

Barton Healthcare provided mechanical, electrical and plumbing design services for a 2,650 square-foot addition and 5,875 square-foot renovation in the existing 2102 Building at the Lancaster General Health Suburban Outpatient Pavilion. The project included a new Intensity Modulated Radiation Therapy (IMRT) vault and associated control and equipment rooms, data server room and planning room.



Ephrata Community Hospital | Ephrata, PA
Radiology Department
14,600 sq. ft. | \$3.7 million | April 2008

Barton Healthcare provided mechanical, electrical and plumbing design services for a 7,600 square-foot, 2-story addition and a 7,000 square-foot renovation of the 1972 Building at Ephrata Community Hospital. The addition included an expanded radiology area with multiple CT scan rooms and MRI suites. The project included a new mechanical room and executive offices on the first floor. Due to limitations of the facility's existing chilled water capacity and distribution systems, Barton Healthcare designed the HVAC system with DX cooling with the flexibility to convert to chilled water cooling in the future when the facility's chiller plant capacity is expanded.



The Good Samaritan Hospital | Lebanon, PA
Wound Care Center
4,000 sq. ft. | \$1 million

Barton Healthcare provided mechanical, electrical and plumbing engineering services for this new single-story, 4,000 square-foot wound care center. The building includes hyperbaric chambers, exam and treatment rooms, support spaces and administrative offices. Barton Healthcare also designed oxygen and medical air systems including a bulk oxygen storage tank, medical air manifold, monitoring and medical gas alarm systems to serve the hyperbaric chambers as well as HVAC systems to provide humidity control for the rooms.



Lancaster General Hospital | Lancaster, PA
Renal Dialysis Suite
5,600 sq. ft. | \$1.2 million

Barton Healthcare provided mechanical, electrical and plumbing design services for renovations to the Renal Dialysis Suite located at the Lancaster General Hospital. The project included seven general dialysis stations and two dialysis bays in individual isolation rooms, as well as an exam and new reverse osmosis water supply rooms.



LGH Suburban Outpatient Pavilion | Lancaster, PA
MRI Suite
7,200 sq. ft. | \$2.4 million

Barton Healthcare provided mechanical, electrical and plumbing design services for 7,200 square feet of renovations to construct a new MRI suite. The suite includes two MRI rooms, pre and post holding areas and associated support space.



MECHANICAL | ELECTRICAL | PLUMBING | FIRE PROTECTION
ARCHITECTURAL LIGHTING DESIGN | INTEGRATED ENERGY SOLUTIONS | COMMISSIONING

Barton Healthcare—a division of Barton Associates, Inc.—provides quality engineering solutions to healthcare clients throughout the Mid-Atlantic Region. Healthcare projects are often highly sensitive and complex in nature and require a customized engineering approach. Barton Healthcare has an extensive portfolio of state-of-the-art facilities including surgical, emergency, outpatient surgical, treatment/diagnostic, nursing services, patient support services, medical offices, general support services and senior living.

Barton Healthcare considers ways to minimize energy consumption, conserve resources and enhance indoor environmental quality for every project we complete. Energy Conservation is a priority in every design and our staff of professionals are trained, licensed and/or certified to design MEP systems and evaluate the performance of these systems. We utilize building information modeling for greater team collaboration. We apply focus, dedication, practicality, precision and longevity to each project we deliver and live by these principles to help us achieve our mission—We Make Buildings Work.

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