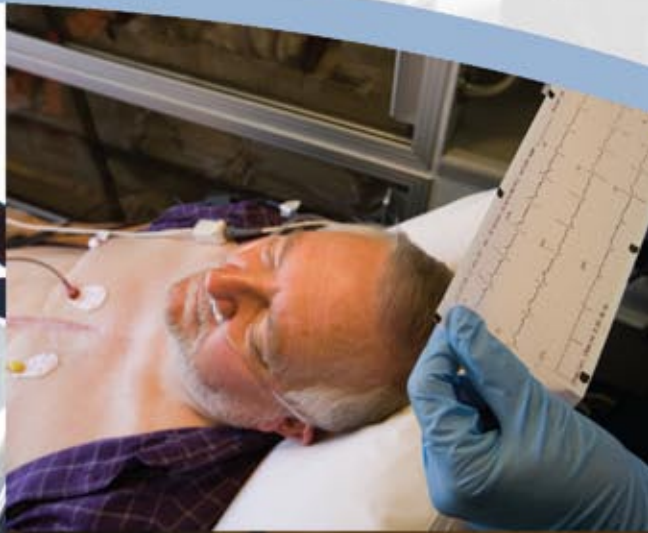


NORTH COLORADO MEDICAL CENTER



Banner Health

# CardioVascular Institute of North Colorado®



# CardioVascular Institute

OF NORTH COLORADO

970-350-6162 or 1-877-455-5888

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***Hospital Cardiovascular Services***

970-350-6162

***Cardiology Clinic***

**Greeley**

970-392-0900 or 1-800-845-4411

**Loveland**

970-203-2400

**Sterling**

970-526-8175

***Heart Failure Clinic***

**Greeley**

970-350-6953

**Loveland**

970-203-2411

***CT Surgery***

**Greeley and Loveland**

970-378-4593 or 1-866-293-5617

***Vein Clinic***

970-378-4100

***PAD Clinic***

970-351-8020

# CardioVascular Institute

## OF NORTH COLORADO

*leveraging experience & innovation*

The CardioVascular Institute of North Colorado is a comprehensive, state-of-the-art heart hospital located within North Colorado Medical Center in Greeley. Dedicated to cardiovascular diagnosis, intervention, and wellness, our 175,000 square foot Institute combines the most innovative ideas in cardiovascular care and houses them in one location.

The Institute offers everything from the most advanced diagnostic imaging in northern Colorado to leading edge open-heart surgery to an accredited cardiac rehabilitation program. What's more, our medical team is comprised of highly-trained, motivated, board-certified physicians.

We participate in national quality benchmarks with the Society of Thoracic Surgeons (STS) and the American College of Cardiology (ACC). Our participation in these quality assurance tracking measures illustrates our commitment to providing our patients with excellence in health care.

Additionally, North Colorado Medical Center is a nationally top-ranked hospital. Combined with our expert, compassionate staff and a warm, comfortable environment, you can feel confident you are in the region's finest cardiac facility.

Our expert care and services are also offered through full-time clinics in Loveland and Sterling and through outreach clinics in northern Colorado and Nebraska.

## Institute FACTS:

- Echocardiography lab accredited by the Intersocietal Committee for the Accreditation for Echocardiography Laboratories (ICAEL).
- Nuclear Medicine lab accredited by Intersocietal Commission for the Accreditation of Nuclear Medicine Laboratories (ICANL).
- Cardiac Rehabilitation program certified by the American Association of Cardiovascular & Pulmonary Rehabilitation.
- More than 100 dedicated cardiovascular staff.
- The Institute is one of the nation's Thomson 100 Top Hospitals®: Cardiovascular 2007. The annual award objectively measures performance on key criteria for acute care hospitals.



# CardioVascular Institute

## DIAGNOSTIC RESOURCES

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The experts at the CardioVascular Institute use both non-invasive and invasive diagnostic tools to detect, diagnose and treat cardiovascular disease. These techniques offer the flexibility needed to ensure our patients receive the care that offers the best overall outcome for their situation.

### *Non-Invasive Procedures*

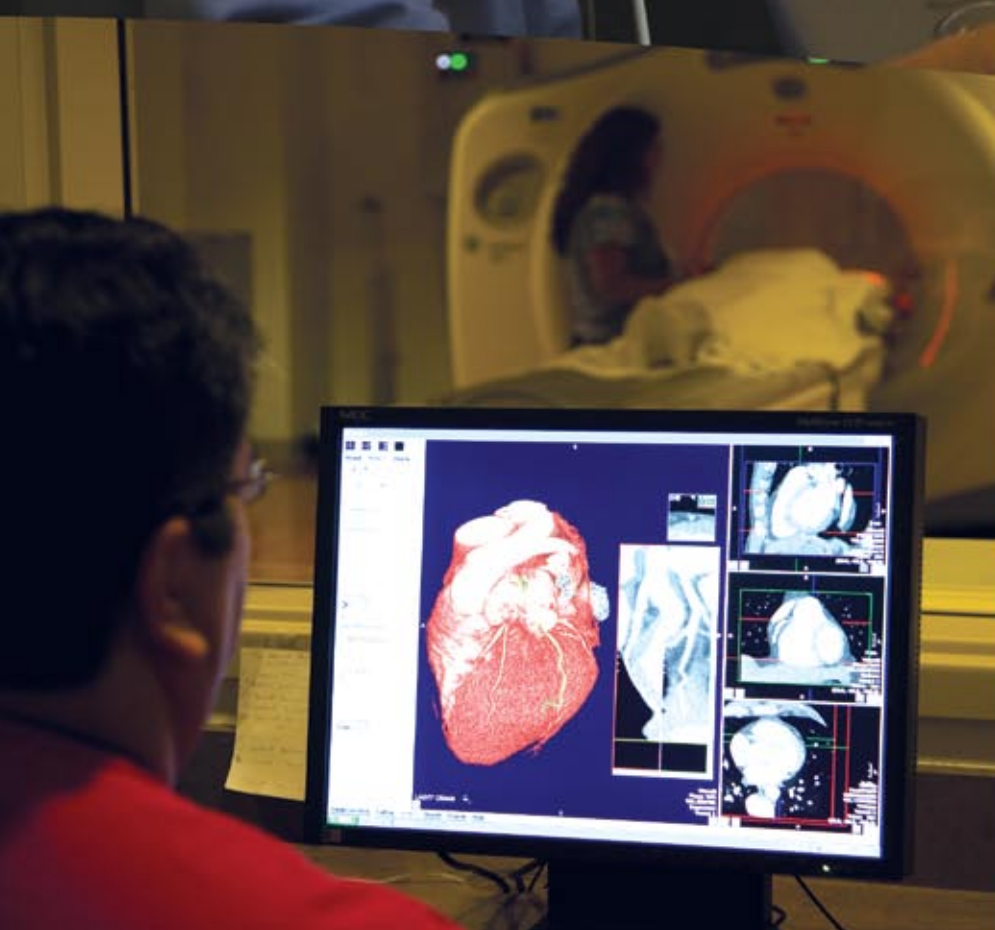
- 64-Slice Computed Tomography (CT or CAT Scan)
- BioZ Impedance Cardiography (ICG)
- Echocardiography
- 3-D Echocardiography
- Electrocardiography (EKG)
- Exercise Tolerance Testing
- Nuclear Stress Testing
- Holter Monitoring & Event Monitoring
- Peripheral Vascular Ultrasound including carotid screening
- Peripheral Arterial Disease Screening (PADnet)
- Heart Scores

### *Invasive Procedures*

- Cardiac Catheterization
- Coronary & Peripheral Angiogram
- Intravascular Ultrasound (IVUS)
- Trans-esophageal Echo (TEE)
- 3-D Trans-esophageal Echo (TEE)
- Electrophysiology Studies including mapping

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# CardioVascular Institute

## CARDIAC CATHETERIZATION

The CardioVascular Institute contains three spacious state-of-the-art cath labs, including one dual-purpose lab that can be used for cardiac catheters as well as diagnostic or interventional electrophysiology studies. Two of the labs are equipped with the latest in flat-panel technology, providing superior imagery and a reduced radiation dose to patients. One lab features a larger flat-panel that makes it easier to perform peripheral vascular procedures. The area also includes a dedicated 12-bed admit and recovery area for patients.

### *Cardiac Catheterization Procedures*

- Coronary Angiography
- Coronary Angioplasty
- Rotational Coronary Atherectomy
- Coronary Stent Implantation
- Coronary Intravascular Ultrasound
- Radial Catheterization
- Peripheral Vascular Intervention including angioplasty, stent implantation and Silver Hawk™ plaque excision
- Carotid Artery Stenting
- ASD/PFO Closure Devices

### *Electrophysiology Procedures*

- Electrophysiology Study
- ICD/Pacemaker Implantation
- Atrial Fibrillation Ablation
- Ventricular Tachycardia Ablation

## Institute FACTS:

- Three state-of-the-art Cath Labs offering diagnostic cardiac catheters, angioplasty, stents, pacemakers, peripheral artery disease intervention and ICD implants.
- The first cath lab in the region offering the latest GE flat-panel technology, providing superior imagery and a reduced radiation dose to patients.





## Institute FACTS:

- Code STEMI offers automatic transfer with no paperwork hurdles, so the focus remains on patient care. At NCMC, caregivers are specially trained to provide treatments to restore blood flow through percutaneous coronary intervention therapy, more commonly known as stents or balloon angioplasty.

## CARDIAC ALERT

Our Cardiac Alert program coordinates field EMT and hospital emergency personnel to provide cardiac care in one-third faster than the national standard—which is less than 90 minutes. The Institute, in collaboration with Emergency Department staff (ED) at North Colorado Medical Center and Weld County Paramedic Service (WCPS), implemented the Cardiac Alert program to reduce door-to-balloon times and thus improve patient outcomes. When a patient calls 911 with a suspected heart attack, field EMTs respond immediately. While on scene, an EKG is obtained. If a heart attack is present, a Cardiac Alert is activated by calling the ED. The ED alerts the on-call cardiologist and the Cath Lab team. The patient bypasses the ED and is taken directly from WCPS to the Cath Lab, where the cardiac team is waiting.

## CODE STEMI

Eastern Colorado and Nebraska hospitals participating in the Code STEMI program have taken steps to make sure that heart attack patients receive timely care to ensure the best patient outcomes. These hospitals have provided specialized training for medical personnel so they follow specific protocols when a STEMI is present.

Protocols include:

- Clot-busting agents are used to help restore blood flow
- North Colorado Med Evac is employed for patient transfer
- Standardized treatment plans are used by flight nurses
- The on-call cardiologist at North Colorado Medical Center is alerted that a patient is being transferred

# CardioVascular Institute

## ACCOMPLISHED PHYSICIANS

Together with the most advanced technology available, our highly skilled, qualified and respected physicians are eager to provide state-of-the-art services to meet your needs with a caring touch that exceeds your expectations.

**Paul G. Hurst, M.D.**

*Cardiologist*  
ABIM, Cardiovascular Disease  
ABIM, Internal Medicine  
CBNC, Nuclear Cardiology  
M.D., College of Medicine,  
University of Kentucky

**John H. Drury, M.D.**

*Cardiologist*  
ABIM, Cardiovascular Disease  
ABIM, Internal Medicine  
M.D., St. Louis University School  
of Medicine

**James E. Quillen, M.D.**

*Interventional Cardiologist*  
ABIM, Cardiovascular Disease  
ABIM, Internal Medicine  
CBNC, Nuclear Cardiology  
M.D., University of Southern  
California School of Medicine

**James H. Beckmann, M.D.**

*Interventional Cardiologist*  
ABIM, Interventional Cardiology  
ABIM, Cardiovascular Disease  
ABIM, Internal Medicine  
M.D., Medical College of Georgia

**Maurice I. Lyons, D.O.**

*Cardiovascular Surgeon*  
American Board of  
Thoracic Surgery  
American Board of  
Surgery-Vascular Surgery  
D.O., University of Medicine and  
Dentistry of New Jersey; School  
of Osteopathic Medicine

**Cynthia L. Gryboski, M.D.**

*Interventional Cardiologist*  
ABIM, Interventional Cardiology  
ABIM, Cardiovascular Disease  
M.D., University of Colorado  
Health Science

**Brian S. Lyle, M.D.**

*Cardiologist*  
ABIM, Cardiovascular Disease  
ABIM, Internal Medicine  
M.D., MCP Hahnemann School  
of Medicine, Philadelphia

**Randall C. Marsh, M.D.**

*Interventional Cardiologist*  
ABIM, Interventional  
Cardiology  
ABIM, Cardiovascular Disease  
ABIM, Internal Medicine  
Board Certified, Cardiac CT  
M.D., Texas Tech University  
School of Medicine

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Physicians listed from left to right: *Paul G. Hurst, M.D., John H. Drury, M.D., James E. Quillen, M.D., James H. Beckmann, M.D., Maurice I. Lyons, D.O., Cynthia L. Gryboski, M.D., Brian S. Lyle, M.D., Randall C. Marsh, M.D., Lin-Wang Dong, M.D., Ph.D.*

**Lin-Wang Dong, M.D., Ph.D.**

*Cardiologist*  
ABIM, Cardiovascular Disease  
ABIM, Internal Medicine  
M.D., NeiMengGu Medical  
College, China

**Kenneth M. Richards, M.D.**

*Cardiovascular Surgeon*  
American Board of  
Thoracic Surgery  
M.D., Uniformed Services  
University of Health Sciences,  
F. Edward Herbert School  
of Medicine

**Harold L. Chapel, M.D.**

*Cardiologist*  
ABIM, Cardiology  
ABIM, Geriatrics  
ABIM, Internal Medicine  
CBNC, Nuclear Cardiology  
M.D., University of Colorado  
School of Medicine

**Gene E. Tullis, M.D.**

*Cardiothoracic Surgeon*  
American Board of  
Thoracic Surgery  
American Board of Surgery-  
Surgical Critical Care  
M.B.A., Healthcare  
Administration, Regis University  
M.D., Ohio State University

**Cecilia M. Hirsch, M.D.**

*Cardiologist*  
ABIM, Cardiovascular Disease  
ABIM, Internal Medicine  
CBNC, Nuclear Cardiology  
Board Certified, Cardiac CT  
M.D., Universitatea de Medicina  
si Farmacie, Cluj-Napoca, Romania

**Arnold E. Pfahnl, M.D., Ph.D.**

*Electrophysiologist*  
Board Certified, Electrophysiology  
ABIM, Cardiovascular Disease  
ABIM, Internal Medicine  
M.D., University of Miami School  
of Medicine

**Ahmad H. Shihabi, M.D.**

*Cardiologist*  
ABIM, Cardiovascular Disease  
ABIM, Internal Medicine  
CBNC, Nuclear Cardiology  
Board Certified, Echocardiography  
M.D., The University of Jordan,  
Faculty of Medicine, Amman,  
Jordan

**Stephen R. Zumbrun, M.D.**

*Interventional Cardiologist*  
ABIM, Interventional Cardiology  
ABIM, Cardiovascular Disease  
ABIM, Internal Medicine  
M.D., Indiana University

**Gary A. Rath, M.D.**

*Interventional Cardiologist*  
ABIM, Interventional Cardiology  
ABIM, Cardiovascular Disease  
ABIM, Internal Medicine  
M.D., University of Rochester  
School of Medicine



## Institute FACTS:

The Institute is the exclusive provider of cardiac services at North Colorado Medical Center in Greeley and McKee Medical Center in Loveland. Both facilities received the 2011 Distinguished Hospital Award for Clinical Excellence™ from HealthGrades®. This distinction places NCMC and McKee in the top 5 percent in the nation for overall quality outcomes.



Physicians listed from left to right: *Kenneth M. Richards, M.D., Harold L. Chapel, M.D., Gene E. Tullis, M.D., Cecilia, M. Hirsch, M.D., Arnold E. Pfahnl, M.D. Ph.D., Ahmad H. Shihabi, M.D., Stephen R. Zumbrun, M.D., Gary A. Rath, M.D.*

# CardioVascular Institute

## SURGICAL PROCEDURES

A variety of surgical procedures are provided at the CardioVascular Institute including cardiac, thoracic and vascular surgery.

### *Cardiac Surgery*

Comprehensive adult cardiac surgical care is provided by our team of cardiothoracic and cardiovascular surgeons.

Commonly performed procedures include:

- Coronary Artery Bypass Grafting (CABG)
- Off-Pump Coronary Artery Bypass (OPCAB)
- Endoscopic Saphenous Vein Harvesting for CABG
- Radial Artery Harvesting for CABG
- Valve Replacement (mechanical and bioprosthetic)
- Mitral and Tricuspid Valve Repair
- Surgical Treatment of Atrial Fibrillation (Maze Procedure)
- Homograft Replacement of the Aortic Valve and Aortic Root
- Surgical Management of Endocarditis

- Repair of Thoracic Aortic Aneurysm or Aortic Dissection
- Repair of Adult Congenital Heart Lesions
- Management of Thoracic Trauma (Heart, Lungs, Aorta, etc.)
- Pacemaker and Defibrillator Placement

### *Thoracic Surgery*

We provide surgical treatment of a wide variety of thoracic diseases. Comprehensive approaches to the management of benign and malignant diseases of the lung, esophagus, and mediastinum are combined with modern and innovative surgical techniques in order to provide the most effective and efficient mode of therapy.

Commonly performed procedures include:

- Lobectomy, Pneumonectomy
- Esophagogastrectomy (transthoracic or transhiatal)
- Cervical Mediastinoscopy, Anterior Mediastinotomy





## Institute FACTS:

- Our 1,100 square foot hybrid endovascular suite streamlines cardiovascular imaging, vascular procedures and surgical services into one room.
- Our Cardiovascular Care Unit (CVCU) is an acuity adaptable unit that enables patients to remain in the same room throughout treatment and recovery and are monitored on our advanced telemetry system.

- Combined-modality Therapy for Advanced Thoracic Malignancies
- Comprehensive Cancer Staging
- Combined Chestwall Resection and Reconstruction
- Video-Assisted Thoracic Surgery (VATS) for Pulmonary Resection
- VATS Pleurodesis for Spontaneous Pneumothorax or Malignant Effusion
- VATS Drainage and Decortication for Empyema
- VATS Lung Biopsy
- VATS or Subxyphoid procedures for Pericardial Biopsy, Drainage or Resection
- Resection of Mediastinal Tumors, Thymectomy

### *Vascular Surgery*

Comprehensive care for the patient with any and all major vascular diseases is provided including:

- Carotid Endarterectomy
- Aortic Aneurysm Repair
- Aortobifemoral Bypass
- Infrainguinal Bypass (femoral-popliteal, etc.)
- Varicose Vein Sclerotherapy

### *Endovascular Procedures*

- Endovenous Laser Ablation
- Thoracic Aortic Endografts
- Abdominal Aortic Endografts
- Iliac stenting
- SFA stenting

# CardioVascular Institute

## CARDIAC REHABILITATION

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Our cardiac rehab program has received national certification from the American Association of Cardiovascular and Pulmonary Rehabilitation. A team of cardiac rehabilitation specialists tailor individual exercise and diet programs to meet each patient's needs. The goal is to improve heart performance through exercise, a healthy diet, stress reduction and education. The cardiac rehabilitation program consists of three phases.

### *Inpatient Program - Phase I*

Cardiac rehabilitation may begin in the hospital with low level, progressive physical activity. The patient and his/her family will learn about heart disease and how to manage the patient's care after being discharged from the hospital.

### *Cardiac Rehab (Outpatient) - Phase II*

The outpatient program provides self-monitoring skills and tools for a healthy lifestyle. Patients participate in monitored exercise sessions three times a week. Patients and their families receive education on diet, exercise and stress management.

### *Adult Fitness (Maintenance) – Phase III*

In the maintenance phase, patients have the opportunity to build upon the progress in Phases I and II. This program can also be beneficial for people at risk of developing heart disease who have not yet required cardiac intervention. It includes supervised exercise sessions and ongoing support to maintain a healthy lifestyle.





## HEART FAILURE CLINIC

Our team of physicians, nurse practitioners, physician assistants, clinical pharmacists, dietitians and other expert staff provide specialized care to help people with heart failure live improved lives. Patients and their families can see significant benefits from participating in the Heart Failure Clinic:

- Customized care plan for heart failure management including nutrition counseling, medication teaching and palliative care plans when needed
- Home telemonitoring for patients with advanced heart disease
- Inpatient and outpatient treatment and follow-up
- Communication and collaboration with their primary care physician and other providers
- Access to a nurse practitioner 24 hours a day, 7 days a week
- Heart Failure Clinic – Loveland 970-203-2411

## Institute FACTS:

- Clinic participants have access to ongoing heart failure clinical trials and research.
- Our Heart Failure Clinic was recognized for superior patient outcomes and excellence in cardiovascular disease by the American Heart Association.



## VEIN CLINIC

We provide treatment for a full spectrum of venous disorders including a new outpatient non-surgical laser procedure for varicose veins. With this minimally-invasive procedure, patients are able to walk out of the office and return to full activity after the procedure.

Treatment of varicose veins includes:

- Envovenous Laser Ablation
- Varicose Vein Sclerotherapy
- Cosmetic Sclerotherapy for spider veins
- Phlebectomies

## PAD CLINIC

Our dedicated PAD Clinic (Peripheral Arterial Disease) provides education, comprehensive screening and treatment:

- ABI (ankle brachial index)
- Stress and resting PVR (Pulse Volume Recording, also known as arterial flow studies)

These services benefit patients with lifestyle limiting claudication and may also offer treatment alternatives to diabetic patients with non-healing ulcerations.

- PADnet™-primary care physicians can screen patients in their offices, post the studies to a secure website and receive diagnosis results from our multidisciplinary vascular team on the website
- Carotid duplex scanning for TIA or stroke
- Renal artery scanning for hypertension
- Percutaneous peripheral atherectomy including the SilverHawk™ procedure and peripheral stenting



## RESEARCH

The cardiologists and cardiovascular surgeons at the Institute have the opportunity to participate in significant clinical and device research trials. These trials enable us to contribute to the quality of life not only for those in our local communities, but for millions of people worldwide. Many advances in medical technology have been made possible through such research.

Our highly qualified research team continues to look for studies offering new and exciting technology to enhance the care we are able to provide.



## Institute FACTS:

The areas of cardiac research taking place at North Colorado Medical Center and the CardioVascular Institute include:

- Thoracic Aneurysm Repair
- Acute Coronary Syndrome
- Congestive Heart Failure
- Atrial Fibrillation
- Cardiac Registries
- Secondary Treatment for Coronary Disease
- Device Trials



Banner Health

# CardioVascular Institute of North Colorado®

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