



— America's Emerging Orthopaedic Research & Development Center —

INFRASTRUCTURE FOR INNOVATION

ORTHOPAEDIC INNOVATION

The rapid emergence of Memphis as a center of orthopaedic research and development has resulted from years of steady infrastructure growth in support of the bioscience, biomedical, and healthcare industries. Creating the necessary facilities, environment, and resources has led to a critical mass where the confluence of time, place, and energy will generate sustained and ongoing growth far into the future.



Today, Memphis is a worldwide leader in orthopaedic and spinal implants and the second-largest center for orthopaedic device manufacturing, capturing an estimated 20% (\$6.5 billion) of global orthopaedic revenues.

The forces of innovation in the Memphis orthopaedic market are many and varied:

MEDICAL DEVICE COMPANIES - Major manufacturers include: Medtronic Sofamor-Danek, Smith & Nephew Orthopaedics, and Wright Medical.

SPECIALIZED CLINICAL GROUPS - The world-renowned Campbell Clinic, Semmes-Murphey Neurologic & Spine Institute, and OrthoMemphis.

THE REGIONAL MEDICAL CENTER AT MEMPHIS - “The Med” is the 3rd-busiest Level 1 Trauma Center in the nation.

SMALLER, INDEPENDENT COMPANIES AND START-UPS - GTx, Inc., Active Implants, TiGenix, Regenisis Orthopaedics, Expanding Orthopedics, Extra Ortho, Cagenix, and NovaLign Orthopaedics.

These are only a few of a host of established companies, venture firms, business groups, and academic institutions that fund, create, or support orthopaedic innovation in Memphis. Other significant players include the Medical Education & Research Institute (MERI), which conducts state-of-the-art educational courses for physicians; the InMotion Musculoskeletal Institute, a nexus where convergent clinical, research, and industry partners can meet to create a translational research model; and the now-under-construction UT-Baptist Research Park, which will have an orthopaedic focus and provide 1.2 million square feet of business development, laboratory research, and education facilities on 10 acres in the middle of the Memphis Medical Center.

BIOSCIENCE RESOURCES

Successful orthopaedic research and development efforts depend on a deep and extensive infrastructure supporting the larger bioscience industry. First-rate facilities are essential. So are excellent educational systems, convenient access to support services, and quality-of-life amenities.

Memphis already has an impressive bioscience-industry infrastructure. In fact, 1 in every 7 Memphians currently works in the bioscience sector, and 30% of our gross metro product is attributed to bioscience. We are moving rapidly to ensure that our bioscience resources remain or become world-class.

Our current strengths include a wide array of resources:

UNIVERSITY OF TENNESSEE HEALTH SCIENCE CENTER -

Adjacent to UT-Baptist Research Park and sponsor of the new Regional Biocontainment Laboratory, the center is the state's largest medical school and maintains a General Clinical Resource Center and Molecular Resource Center.

FEDEX INSTITUTE OF TECHNOLOGY - Supports research in such areas as artificial intelligence, nanotechnology, and biotechnology.

MEMPHIS BIOWORKS FOUNDATION - Dedicated to developing Memphis as a bioscience center, focuses on programs, infrastructure, workforce education, and entrepreneurship initiatives. It is also responsible for implementing and managing the UT-Baptist Research Park.

THE WORLD'S TOP PHARMACEUTICAL COMPANIES - GlaxoSmith-Kline, Johnson & Johnson, Pfizer, Schering-Plough, Medco/Accredo, DDN, Cardinal Health, McKesson, and TopRx — all have major operations in Memphis.

MEMPHIS IS A REGIONAL CLINICAL HUB - Home to Baptist Memorial Hospital, St. Francis Hospital, Methodist University Hospital, the Med, Memphis VA Hospital, Le Bonheur Children's Hospital, and the internationally recognized St. Jude Children's Research Hospital.

MANY CONTRACT MEDICAL MANUFACTURING FIRMS HAVE OPERATIONS IN MEMPHIS -

Sandvik Medical Solutions, Engineered Medical Systems (EMS), Y&W Technologies, Onyx Medical Corporation, and Millstone Medical Outsourcing.

OUR EDUCATIONAL INFRASTRUCTURE COMPRISES 11 COLLEGES AND UNIVERSITIES -

Included are the Southern College of Optometry, University of Tennessee College of Pharmacy (a new building is under construction in the UT-Baptist Research Park), and the University of Memphis Department of Biomedical Engineering. Of the approximately 6,800 graduates each year, 32% (almost 2,200) earn bio-science-related degrees. Colleges and universities in the Mid-South grant over 30,000 degrees and certificates each year.



The UT-Baptist Research Park, now under construction, represents a major advance in both solidifying and promoting Memphis as a center of the growing biosciences industry. (See back cover.)

BUSINESS CLIMATE

For orthopaedic and other medical/bioscience firms, Memphis is a great place to call home. From the logistics edge conferred by our central U.S. location to our most welcome low cost of living, Memphis offers a very healthy business climate.

Consider the advantages:

DISTRIBUTION AND SHIPPING - Memphis is the home and world hub of FedEx, which has made Memphis International Airport the world's busiest cargo airport for each of the last 16 years. We have the latest cut-off times for next-day delivery in the U.S.



READILY AVAILABLE WAREHOUSING - Memphis has more than 160 million square feet of warehouse space with an average size for current construction of approximately 500,000 square feet (over 11 acres) per building.

LOW WAREHOUSE LEASE RATES - We offer rates 25-65% lower than comparable space in cities like Atlanta, Indianapolis, St. Louis, and Los Angeles.

LOW OPERATING COSTS - Memphis is one of the top 10 most affordable cities in North America and Europe in which to operate a biomedical business and the least expensive city in the southeastern U.S.

LOW COST OF LIVING - 89.9% of the national average.

HOME OF THREE FORTUNE 500 COMPANIES - AutoZone, FedEx, and International Paper.

INTERMODAL DISTRIBUTION AND LOGISTICS CENTER -

Memphis is the 3rd-largest rail center in the U.S., the 4th-largest inland port, a hub of Delta Airlines, and we serve more major metropolitan markets overnight by truck than any other U.S. city.

SPORTS AND ENTERTAINMENT - We also know how to play, with the NBA's Memphis Grizzlies, Major League Baseball's AAA Memphis Redbirds, and the perennial powerhouse University of Memphis Men's Basketball team.

Other attractions include Graceland (home of Elvis Presley), the Orpheum Theater, Playhouse on the Square, Memphis Zoo, legendary Beale Street, Memphis Symphony Orchestra, Shelby Farms Conservancy and Park, Memphis Pink Palace Museum and Planetarium, Brooks Museum, Dixon Art Gallery, Memphis Botanic Garden, and Memphis in May.

A different kind of action is available in the casinos of Tunica, Mississippi, only a 30-minute drive from almost anywhere in Memphis.

UT - BAPTIST RESEARCH PARK

The crowning touch of the bioscience/orthopaedic research and development infrastructure initiative in Memphis is the UT-Baptist Research Park. The 10-year, six-phase master plan (begun in February 2007) envisions a research, incubator, and commercial center dedicated to the bioscience industry. Six buildings with an average size of 200,000 square feet will include:

- State-of-the-art lab and office buildings.
- A Regional Biocontainment Lab with a suite of Biosafety Level 2 and 3 laboratory modules.
- Accessible vivarium space and centralized management of live-animal studies.
- A cadaveric training academy.
- A new University of Tennessee Health Science Center College of Pharmacy building.
- Facilities for training, meetings, and security.
- Build-to-suit laboratory and office space.

As a leading center for biotech, the Research Park offers unique advantages. A world-class facility in the middle of the Memphis Medical Center, it offers proximity to numerous biotech businesses, strong university research capabilities, an urban campus, and a highly trained technical workforce.

Space is available for occupancy beginning in September 2011.

