

Approved: SRB 2-5-09
Date

MINUTES OF THE HOUSE COMMERCE AND LABOR COMMITTEE

The meeting was called to order by Chairman Steven Brunk at 9:01 a.m. on January 27, 2009, in Room 784 of the Docking State Office Building.

All members were present except:

Representative Jill Quigley- excused

Committee staff present:

Stephen Bainum, Committee Assistant
Jerry Donaldson, Kansas Legislative Research Department
Dennis Hodgins, Kansas Legislative Research Department
Renaë Jefferies, Office of the Revisor of Statutes
Daniel Yoza, Office of the Revisor of Statutes

Conferees appearing before the committee:

Paul H. Wooley, PH.D., Center of Innovation for Biomaterials in Orthopaedic Research (CIBOR)

Others attending:

See attached list.

The meeting was called to order at 9:01 a.m. by the Chairman. The minutes of January 15th and January 21st which had been distributed earlier were approved.

The Chairman asked if there were any bill introductions. Representative Grange reintroduced his bill about Contractor Continuing Education and asked the Committee if it should be entered as a Committee Bill. The motion was made and seconded and passed unanimously to introduce it as a Committee Bill.

Representative Tietze introduced a bill that would allow bus drivers for private companies to draw unemployment during the summer months only. It was received without objection.

Representative Worley introduced Samie Walters, from Prairie Village, Mission Valley Middle School as his legislative shadow. Representative Tietze also introduced her legislative shadow, Hadasseh Puderbaugh, from Topeka High School. Representative Grange introduced Will Johnson from Whitewater, Kansas, Remington High School as his legislative shadow and all three were welcomed by the Committee.

The Chairman introduced Mike Good, the Business Operations Officer of Via Christi Research. He thanked the Committee for allowing them to update the Committee about their project. A project that has the potential for job retention and new job opportunities. He then introduced Dr. Paul Wooley.

Paul H. Wooley, PH.D., Center of Innovation for Biomaterials in Orthopaedic Research (CIBOR), handed out his presentation ([Attachment 1](#)). He spoke about the future of Orthopaedic devices because of the increasing numbers of joint replacements. Even though joint replacements provided excellent pain relief and restoration of function there are an increasing numbers of implant failures due to stress shielding, material wear debris and material sensitivity. Research is ongoing to achieve revision-free implants through the use of composite materials. Experiments are being done with composites to determine if they can be used in the body. In addition there are FDA Class I, II and III devices that can be developed with composite materials that could be used in operating rooms and in military applications. Finally he spoke about CIBOR being ideally suited for Wichita because of the Aviation Research in Composites.

Representative Bethell asked if 15 years was an accurate life span for a joint replacement. Dr. Wooley said that it was except with people who are young who tend to stress the joint by playing basketball.

Representative Hermanson asked what the time frame was for composite joint replacement. Dr. Wooley said that he should be able to begin clinical trials in five years.

The next meeting is scheduled for January 28, 2009.

The meeting was adjourned at 10:24 a.m.

COMMERCE & LABOR COMMITTEE

DATE: 1-27-09

NAME	REPRESENTING
Lindsay Holwick	KBA
Paul Wooley	ORI
Mike Good	VCR
Carolyn Smith	VCHS
Bruce Witt	VCHS
Chad Austin	KHA
Charles Corral	Publer
Hanne Ann Kover	Netra
SCOTT SCHNEIDER	COX COMMUNICATIONS

**Center of Innovation for
Biomaterials in
Orthopaedic Research
(C.I.B.O.R.)**

Paul H. Wooley, Ph.D.

Director, Orthopaedic Research Institute
Professor of Biology, WSU
Professor Of Orthopaedic Surgery, UKSM-Wichita
Research Specialist, Robert Dole VAMC
KBA Eminent Scholar

The Future of Orthopaedic Devices

THE JOURNAL OF BONE & JOINT SURGERY
J B J S

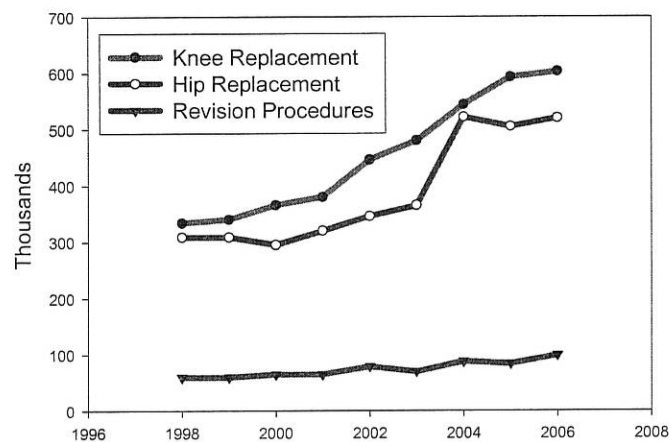
*This is an enhanced PDF from The Journal of Bone and Joint Surgery.
The PDF of the article you requested follows this cover page.*

Orthopaedic Surgeon Workforce and Volume Assessment for Total Hip and Knee Replacement in the United States: Preparing for an Epidemic

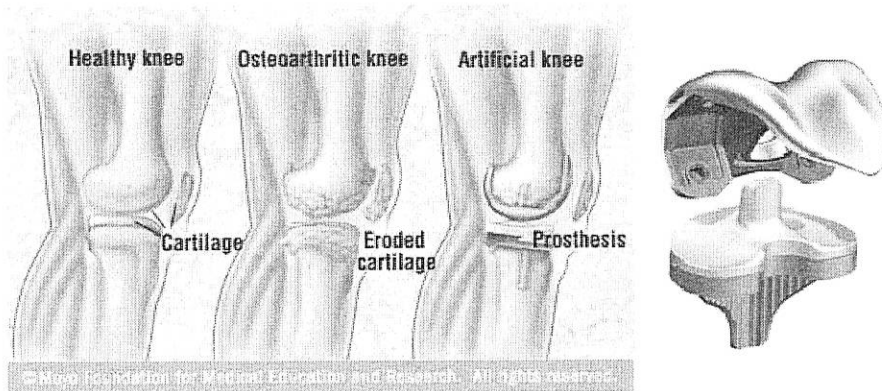
Richard Iorio, William J. Robb, William L. Healy, Daniel J. Berry, William J. Hozack, Richard F. Kyle, David G. Lewallen, Robert T. Trousdale, William A. Jiranek, Van P. Stamos and Brian S. Parsley
J Bone Joint Surg Am. 2008;90:1598-1605. doi:10.2106/JBJS.H.00067

This information is current as of August 26, 2008

Increasing Numbers of Joint Replacements



Total Knee Replacement

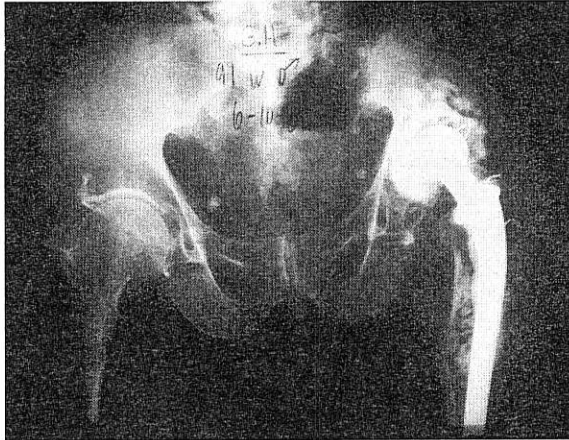


Outcome of Joint Replacements

- Excellent pain relief and restoration of function in >90% of patients at 7 years
- Implants can fail in less than 2 years due to material issues
- Patients are receiving implants at a younger age and require high performance materials
- In the younger patients, 30% of implants will require revision ~15 years after surgery*

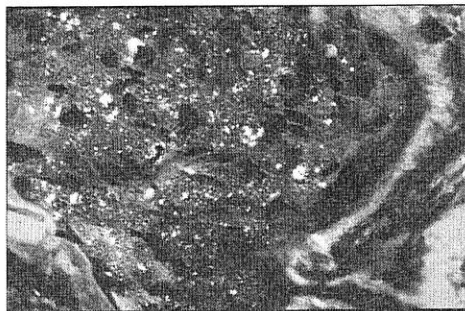
▪ * Keener et al, JBJS 2003

Failure of current implants (1) Stress shielding



- Bone requires activity to be healthy; 'use it or lose it' properties.
- Metals shield bone from the benefits of stress.
- Using most current implants, bone loss will occur.

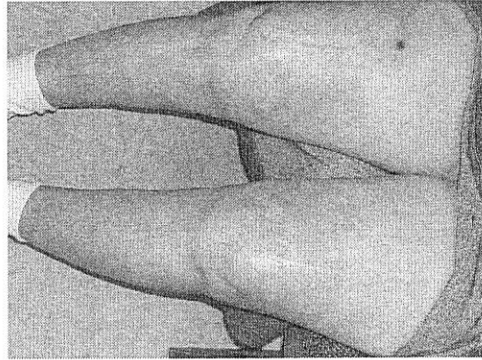
Failure of current implants (2) Material Wear Debris



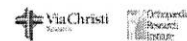
Particles from the metal and plastic cause inflammation leading to bone loss and failure of the implant



Failure of current implants (3) Material Sensitivity

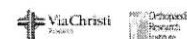


Allergic-like reactions to orthopaedic metals and plastics can lead to bone loss and failure of the implant



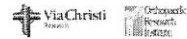
Revision Surgery: Replacement of the original device

- The operative cost of revision surgical procedures are 41% higher than primary surgery
- Hospital stays are 2 days longer, and rehabilitation is significantly slower
- The complication rate (particularly infections) is 32% higher than primary surgery
- Patient pain and suffering
 - Bosiz *et al*, JBJS 2005



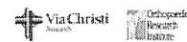
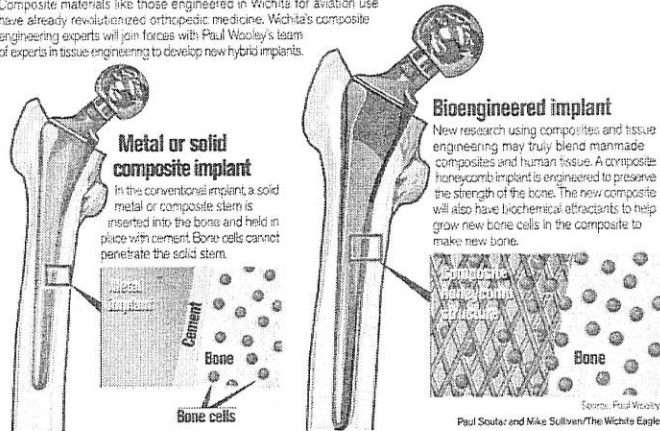
Can we achieve the revision-free implant?

- Ideal bioengineering profile
- Ideal biocompatibility profile
- Complete osteointegration
- Wear-free bearing surface



Composites and tissue engineering

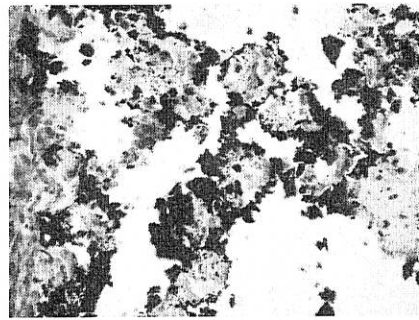
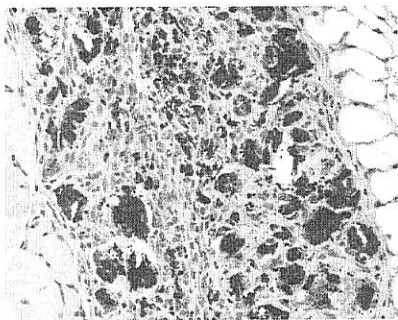
Composite materials like those engineered in Wichita for aviation use have already revolutionized orthopedic medicine. Wichita's composite engineering experts will join forces with Paul Woolley's team of experts in tissue engineering to develop new hybrid implants.



Initial Composite Selection

- A base composite material with properties 'close' to bone
- Amenable to physical and chemical modification
- Familiar to the aircraft industry

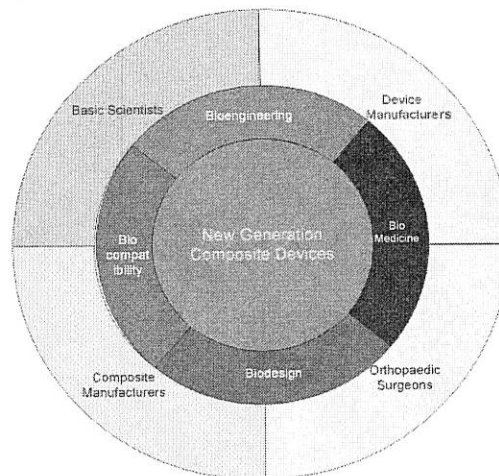
Composite Implantation



The CIBOR Concept

- Orthopaedic Device Manufacturers are not currently skilled in composites, and Composite Manufacturers are not fully familiar with orthopaedic devices.
- The entity that serves to unite these Industries stands to revolutionize the orthopaedic device world.
- The research skills required to unite composites and orthopaedics are available to multi-disciplined Universities.
- Skills required to implement such advances require Device Manufacturers in partnership with leading Research Medical Establishments.

CIBOR serves to unite two Industries with a common Goal



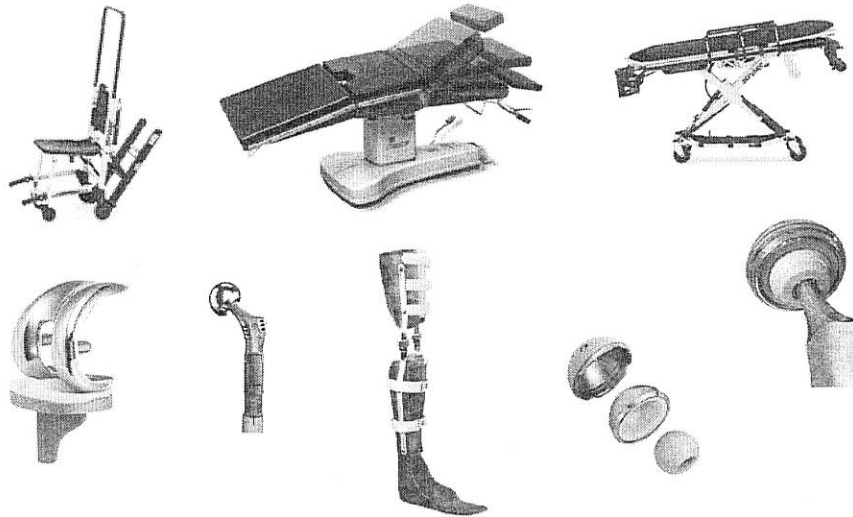
The CIBOR Mission

- Develop a new generation of orthopaedic devices utilizing composite technology
- Adapt NIAR styled relationships between Industry and Academic Institutions
- Provide 'common ground' to promote the interactions of participants from diverse fields
- Place the initial focus upon one class of materials (composites) over a range of devices in one clinical specialty

Industry Driven Translational Research

Orthopaedic Device Manufacturers Composite Manufacturers		
Low Risk Venture FDA Class I Device <i>Branding</i>	Medium Risk Venture Class II/Class III Devices <i>In House</i>	High Risk Venture FDA Class III Device <i>Start-Up</i>
External composite devices such as stretchers and operating room tables.	Rapid external fixation devices designed for military applications. Incremental material improvements to current devices.	Novel in-dwelling devices requiring advances in tissue engineering and nanotechnology.

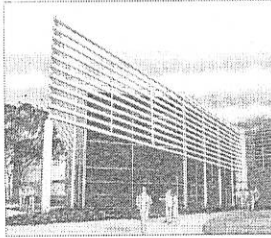
Range of Devices in Orthopaedics



The Structure of CIBOR

- CIBOR should be a free-standing entity to emphasize 'common ground' and promote face-to-face interactions both with and among the Industry Partners
- In-house Core Laboratories, Instrumentation and Technical Expertise will be available to rapidly facilitate projects
- Laboratories will be available to house University and Industry visiting scientists on a project specific basis. Space will be flexible, emphasizing inter-disciplinary projects

CIBOR – Ideally suited for Wichita.



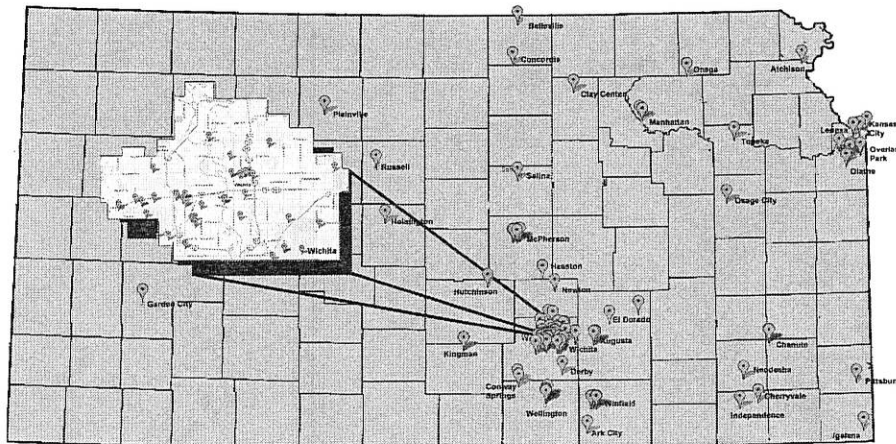
The Center for Health Training at JBARA Airport is designed to support Wichita's aerospace manufacturing industry.



Training center contractor to be chosen soon; ground broken in March

Wichita County is also anticipating \$1 million from Wichita Area Technical College, which is toward a management program for future use when that is necessary to help the state to allow for growth. The facility will be built at a 100-acre site at the JBARA Airport. The project is a joint effort of the

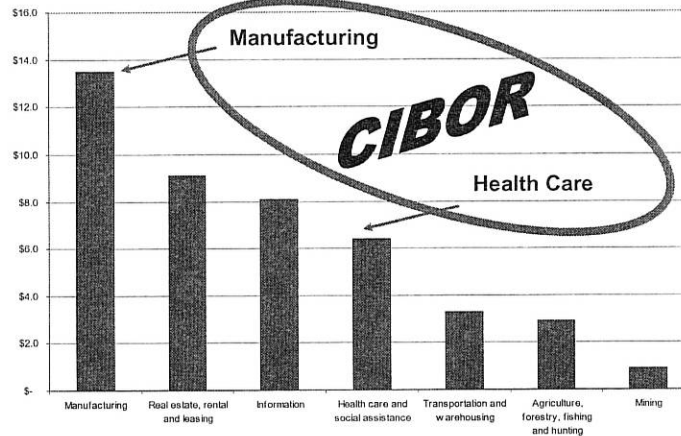
Statewide Array of Composite Manufacturing Facilities



CIBOR Strategic Plan

Unite the Manufacturing and Health Care Industries that
Currently Exist within Kansas

Kansas Real Gross State Product
(Year 2000 dollars in billions)



Creating Synergy Among the Various Cooperating Entities

