

## Research Update

Richard N. Re, M.D.

*Scientific Director*

Over the past 12 months, Ochsner Clinic Foundation has been involved in the development of an exciting new program in translational research. This effort is led by the Pennington Biomedical Research Center in Baton Rouge in conjunction with partners at Tulane University School of Medicine, Louisiana State University (LSU) Medical Center–New Orleans, LSU Medical Center–Shreveport, Xavier University, Ochsner, and other Louisiana research organizations. The program centers on creating a joint application to the National Institutes of Health for a Clinical and Translational Science Award (CTSA). This multiyear, multimillion-dollar award would permit the establishment of a translational research network across the state of Louisiana so that innovative clinical trials can be developed and then mounted on a statewide basis. Support for data capture and analysis as well as for research subject identification and education would be provided, as would funding for investigator education and training. Shared resources for data management and data mining would be developed, including highly sophisticated techniques for the analysis of micro-array DNA data.

The CTSA program has already met with success at many major universities, and we are confident that in time the Louisiana team will be successful in receiving an award. The competition is severe and the process often requires multiple applications to successfully achieve funding, but all partners in the activity are committed to seeing it through to successful conclusion. The effort is particularly exciting because widespread collaborations—in our case, statewide collaborations linking academic centers and community hospitals—is an intrinsic aspect of the program. Thus, the effort will help foster quality research throughout the entire state.

On another note, Dr Robert Gensure and his collaborators at the University of Arkansas and in Japan continue to make steady progress in their development of a novel therapy for osteoporosis. It has been known for some time that low doses of the injectable parathyroid hormone (PTH) can build bone in people with osteoporosis. However, the drug must be repetitively injected. Dr. Gensure and his colleagues have fused PTH to a molecule that binds to the collagen found ubiquitously in bone and elsewhere in the body. Thus, once injected, this fusion protein binds to collagen in bone, providing a source

of PTH in the very vicinity of the bone cells it is designed to act on. Not only is the fusion protein more potent than regular PTH, as one might expect, it is also much longer acting. Thus, many fewer injections are required to achieve steady bone growth. Although studies to date have been conducted exclusively in animals, there is every reason to believe the same results will occur in humans. Therefore, while much basic and clinical research must be performed, this is a translational research program very likely to be successful in creating an important therapeutic agent.

In a more clinical vein, the staff of the Endocrine Section, under the direction of Dr. Alan Burshell, is conducting an important study of so-called “incidentalomas.” These are small tumors on the adrenal glands that almost always are benign and usually are not functional. Yet, they are surprisingly common. When detected on computed tomography or magnetic resonance imaging, however, they pose a problem in that clinicians must assure themselves that these are in fact inactive nodules and are not making hormones such as those associated with Cushing’s disease, pheochromocytoma, or aldosteronoma. The endocrine team has found that some commonly used screening tests miss active nodules and that when more rigorous diagnostic criteria are employed, patients actually benefit from surgical removal of some of these adenomas. This work has the potential to change clinical practice in terms of the treatment of this common disorder.

Dr. Julia Cook and her collaborators continue to develop exciting data on the intracellular actions of the hormone angiotensin II. This so-called intracrine action of angiotensin was shown to affect the blood pressure and renal structure of experimental animals. These findings expand our understanding of the causes and therapy of vascular disease. The concept of intracrine physiologic action was developed at Ochsner more than 25 years ago, a phenomenon increasingly appreciated as an important factor in diseases as diverse as heart disease and cancer.

No update on research at Ochsner would be complete without a mention of Research Night. The Sixth Annual Ochsner Research Night was held on May 12 in the Brent House on the main Ochsner campus. A total of 85 poster presentations were mounted. These covered basic, clinical, translational, and health service research activities conducted by

Ochsner staff. The event was well attended, and the quality of the presentations was excellent. Clinicians, nurses, and members of the community were also invited. Once again, the event was well received, and in many cases opportunities for collaboration were

developed. Research Night abstracts are published in this issue of *The Ochsner Journal*.

In summary, as illustrated by the examples above, Ochsner research continues to be productive and grow. We look forward to further progress in the year to come.