

# HELP US REACH THE MILLION DOLLAR MARK!

See inside

## MISSION:

To encourage scientific research toward finding the cause of and cure for the fibromyalgia syndrome (FMS) as well as to promote public awareness and understanding of this condition.

To support educational, scientific and charitable activities undertaken exclusively in connection with FMS and related disorders.

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# UPDATE

Organizational News and Activities

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## AFSA Funds its 23<sup>rd</sup> Project!

**Title:** A Case-Controlled Study of Proton Spectroscopy in Fibromyalgia

**Principal Investigator:** Patrick Wood, M.D.

Louisiana State University at Shreveport (LSU)

**Award Amount:** \$37,450

Fibromyalgia has long been associated with abnormalities in the body's stress response mechanisms and is believed to be due to problems in brain function. Symptoms often surface for the first time after a stressful insult to the body that may include trauma, infectious agents or a prolonged time of severe duress. Once symptoms have developed, stress also tends to make the symptoms worse. Researchers have shown that those parts of the body responsible for handling stress may be overactive in patients with FMS (e.g., hyperactivity of the corticotropin-releasing hormone neurons, which are believed to blunt growth hormone secretion during exercise, and a sympathetic nervous system that is pushed into hyper-drive so that it can't respond appropriately to common daily stressors). These hormonal and nervous system problems could explain many of the symptoms of FMS, including widespread pain, but the search for the root cause of this situation is essential in order to better understand how to treat FMS.

The hippocampus is part of the limbic system of the brain which is best known for its role in memory and learning—but it has many other functions. The hippocampus is also responsible for “putting the brakes” on the stress response network, to prevent it from running out of control. Ironically, the same chemicals that characterize the stress response (namely cortisol, corticotropin-releasing hormone, and adrenaline) are also known to damage the hippocampus, making it less able to do its job. In addition, the hippocampus also handles pain signals by routing them from the spinal cord to the brain. Exposure of the hippocampus to stress chemicals may therefore be associated with the development of chronic pain, such as that found in FMS and CFS patients.

Magnetic resonance spectroscopy (MRS) is a technique used to characterize the chemical content of living tissue without having to take a sample. Using this technique, researchers **Patrick B. Wood, M.D.**, and **James C. Patterson, M.D., Ph.D.**, at Louisiana State University Health Science Center in Shreveport, will investigate whether or not patients with FMS have a lower concentration of n-acetylaspartate, or NAA, in their hippocampus. NAA is a marker of integrity and function within the brain, and a decrease in its concentration is associated with a variety of illnesses. In fact, a short communication published in *The British Journal of Radiology* in November of 2000 (volume 73, pages 1206-08) indicated that patients with CFS exhibited a substantial decrease in their hippocampal concentration of NAA. The study only assessed seven CFS patients, but this preliminary report presents a strong case for the measurement of NAA levels in both CFS and FMS patients on a larger scale. Wood and Patterson will also be evaluating the effects of depression and anxiety in FMS patients because they may often coexist in people with chronic illnesses.

Other cerebral metabolites will be measured by MRS to provide more knowledge about FMS. Creatine (Cr) levels are predictive of the rate of cellular metabolism and choline (Cho) levels are thought to be a marker of glial cell function. Glial cells surround

the neurons in the brain to assist in regulating transmissions and the transfer of nutrients. Hippocampus volumes will be measured as well because a decreased size has been found in patients suffering from combat-related post-traumatic stress disorder (PTSD). People with PTSD not only have impaired memory functions similar to FMS/CFS; they also have higher than normal levels of stress hormones circulating within their brain.

If patients with FMS (and possibly CFS) are found to have a lower concentration of NAA in their hippocampus compared to those without FMS, this might explain the hyperactive stress response, widespread pain, "fibro fog," and many other symptoms. Medications are available to protect the integrity of the hippocampus, but they are not prescribed for patients with FMS/CFS because there is currently no basis for their use. However, if the NAA concentrations are low in patients, then this study will open up a new avenue of drug therapies that will enable the hippocampus to recover from its stressful

environment. In addition, abnormal concentrations of NAA, Cr, or Cho in the hippocampus, as well as a smaller hippocampus size, could prove to be of benefit diagnostically for patients.

Dr. Wood is an Assistant Professor at LSU Health Science Center and also serves as co-director of their Primary Care Pain Management Clinic. He recently completed a research fellowship in Psychopharmacology and was honored as one of the nation's most promising New Investigators by the National Institutes of Mental Health (NIMH) for his work involving a novel treatment for patients with FMS. NIMH is one of the major Institutes involved in brain research. He is eager to use his special training in neuropharmacology to help identify novel drugs or potential new classes of medications that will benefit patients with FMS and CFS. Dr. Patterson is director of the neuroimaging research center at LSU and is working with Dr. Wood to bring MRS technology to the field of FMS. **END**

## AFSA Donations Are Impacting Research Directions

As AFSA enters its ninth year of operation, the influence of your donations are widely evident. The projects and the investigators funded by AFSA are making an impact in the medical journals, at scientific meetings, and at The National Institutes of Health (NIH). There is also evidence that the results of AFSA-funded projects are catching the attention of the pharmaceutical industry. Although the projects funded by AFSA are small in size, and many are designed as a stepping stone to larger NIH-funded projects, here is a list of accomplishments made possible by your donations:

- ◆ Eight medical journal articles describing exciting new data from projects funded by AFSA have appeared in the peer-reviewed medical literature over the past two years.
- ◆ Roughly an equal number of articles pertaining to AFSA awards are either "in press" or about to be submitted for publication to provide a continuous stream of medical journal articles highly relevant to fibromyalgia patient issues.
- ◆ Over 35 presentations at major scientific conferences were made by AFSA-funded researchers regarding the outcomes of their projects, beginning in the year 1996 when **Daniel Clauw, M.D.**, presented two posters on autonomic dysfunction in patients with FMS and CFS.
- ◆ At least five AFSA-funded projects helped their principal investigators obtain substantial funding from NIH and other large sources of biomedical research

dollars. As more projects near completion, AFSA-funded researchers will be able to use the data from their projects to apply to NIH and other large granting institutions. The end result is that the NIH is spending more money on FMS/CFS-related projects because AFSA is increasing the number of qualified investigators with substantially impressive data to procure NIH grants (typically \$200,000 per year for 3-4 years).

- ◆ Several AFSA-funded researchers have written medical science book chapters incorporating their study findings and conclusions, which further educates doctors in training and others interested in the field.
- ◆ The training of new investigators in the field of FMS/CFS has occurred as part of several AFSA-awards. For example, an award that was made to **Laurence Bradley, Ph.D.**, of University of Alabama at Birmingham, to use brain SPECT imaging to show that FMS and CFS are NOT depression has also helped train **Leanne Cianfrini, M.S.**, who is working on her Ph.D. in this field. **Serge Marchand, Ph.D.**, and **Pierre Arsenault, M.D., Ph.D.**, of Canada, were awarded funding by AFSA to evaluate the malfunctioning in the inhibitory pain control system in patients with FMS, as well as study the drug, Effexor. In the process, these two researchers have trained many others to help in their endeavors. Referring to this subject, Marchand says, "We are in the process of expanding our research in the field of

# AFSA MEMBERSHIP CONTRIBUTION FORM

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- 12-Pack note cards . . . . . \$10
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- AFSA 2000 Seminar Transcripts . . . . . \$50

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fibromyalgia by enlarging our group of people interested in trying to understand the neurophysiological mechanisms of FMS pain.”

AFSA is in the process of putting together a special issue of the “Update” to discuss every project funded, the results they produced (if completed) or a progress report (if the project is still in the works), and input from each investigator on the importance of their project, in terms of how it has enhanced (or will enhance) our scientific understanding of FMS. Based on the substantial input that we have received from AFSA-funded investigators so far, we anticipate that this special issue will be 36-40 pages long. **We will be mailing this issue to people who have recently contributed to AFSA because we want donors to read first-hand about the significance of their contribution!** **END**

## Every Dollar Counts!

Our financial summary for the past year (July 1, 2001 to June 30, 2002) appears in the table below as well as the pie chart on the back page. Our financials are not complicated. That’s because we are all about one thing—funding research. There are no salaries and very little overhead. Our focus, our hearts, our volunteer efforts, and your donations go strictly to finding the cause of and cure for fibromyalgia. For previous financial summaries of AFSA operations, visit our Web site at [www.afsafund.org](http://www.afsafund.org). And while you are there, click on “contributions” to learn more about our beautiful awareness raising note cards, and the AFSA 2000 seminar transcripts. Proceeds go to research!

A more detailed financial report will be included in the upcoming special issue, and it will soon be posted

| Financial Summary for July 1, 2001 to June 30, 2002 |                 |                 |                                  |
|---|-----------------|-----------------|----------------------------------|
| <b>REVENUE &amp; SUPPORT</b>                        |                 | <b>EXPENSES</b> |                                  |
| Contributions:                                      | \$88,263        | 98.31%          | Research Grants: \$84,974 87.27% |
| Interest & Other:                                   | \$ 1,030        | 1.15%           | Educational: \$ 7,442 7.64%      |
| Note Cards:   | \$ 488          | 0.54%           | Operating Exp: \$ 4,954 5.09%    |
| <b>Total Revenue:</b>                               | <b>\$89,781</b> |                 | <b>Total Expenses: \$97,370</b>  |

## AMERICAN FIBROMYALGIA SYNDROME ASSOCIATION

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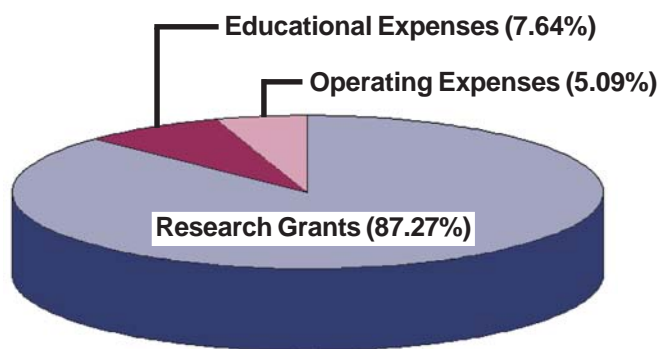
to our Web site as well. In the expense column (pg. 3), two research grants were awarded last year. One was to **Luc Jasmin, M.D., Ph.D.**, at UC-San Francisco (\$56,925 in July 2001) and the other was to **Laurence Bradley, Ph.D.**, at the University of Alabama at Birmingham (\$28,049 in January of 2002). The latest project granted to **Patrick Wood, M.D.**, at LSU (\$37,450), does not appear on AFSA's expense report because the award was not made until November of 2002. The educational expense includes the cost of two **AFSA Updates** to describe projects funded and free information packets that we mail to people inquiring about AFSA. Operating expenses include office supplies, telephone bills, postage expense, and other operating fees. As you can see, our overhead is only 5%, meaning that 95% of all

donations go to our mission.

AFSA began raising funds for research in 1994 and awarded its first two projects in June of 1995. As of June 30, 2002 (our last year-end), AFSA has raised a total of \$945,701. We have funded 23 high quality projects with the money raised so far, but our reserves are dipping low. Join us in our goal to reach the million dollar mark so that more patient-relevant projects can be funded in the year to come. Send AFSA your tax-deductible donation today to keep the steady stream of progress going!

**END**

### How Your Dollars Are Spent



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