

UT studies bones in space

United Press International
HOUSTON — A University of Texas research team is trying to figure out how to keep astronauts' bones from dissolving during long space missions, and their findings could help decide whether people can have space station careers.

Without counter measures, long-term weightlessness could render spaceworkers of the future unfit for life or work on Earth — raising the prospect of an Orwellian division of labor between space and Earth workers.

Dr. Victor Schneider, an associate professor of endocrinology at UT, said the body has some mechanism that recognizes when bones are less needed to support the body against gravity and starts doing away with important bone tissue.

"Without gravity, the body

recognizes it needs less bone mass and goes about establishing a new equilibrium with less bone mass," Schneider said.

Studies on Skylab indicated astronauts lost bone mass at the rate of one-half percent a month, and that stress points — like the heel, the ends of the leg bones and edges of spinal vertebrae — might disappear at 5 percent a month.

Schneider said limited bone loss rates might not cause problems for at least a year or two, but the troubling fact is that so far there is no proven way to cause adults to recreate lost bone tissue after their return to Earth.

That means bone tissue lost in space may be lost forever.

"This would be fine if the astronaut were to stay in space forever, but on re-entry to Earth's gravity, there is the potential of immediate fracture of bones just getting off a

spacecraft," Schneider said.

The metabolic mystery raises the prospect of astronauts' returning to Earth in a much weakened condition. In addition, a person who suffers a spinal stress fracture on Earth often loses an inch or inch and a half in height, Schneider said.

"The individual (after long-term flights) could be put in the position where they would not have enough bone to sustain ordinary stresses of life," Schneider said.

The best countermeasure, of course, would be artificial gravity on spaceships and stations. But cost and design problems so far have kept this out of American space plans.

Exercise has been shown on Skylab missions to be virtually ineffective in overcoming the effects of weightlessness in reducing bone mass.

Schneider, who in December

began work on a three-year study to be financed by a \$225,000 grant from NASA, will be focusing on possible dietary or drug approaches to the problem.

Two potential tools are chemicals — diphosphonates and flourides. Both already are readily available to physicians.

Diphosphonates are a potential substitute for a normal body substance called pyrophosphate, which stops bone resorption.

The important difference is that diphosphonates can be built up in the body for long-term benefits whereas pyrophosphonates are metabolized too quickly and do not build up in the system for later use.

"The basis (for flouride study) is it is believed flouride is one of few substances that can cause new bone growth in an adult," Schneider said.

"The premise would be that either you would give flouride before the astronaut went into

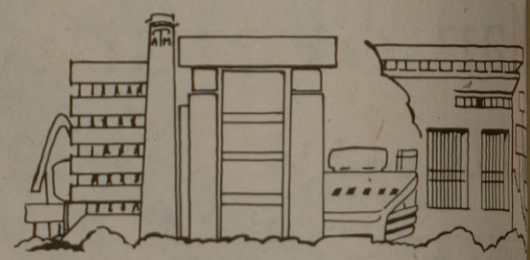
space so they would have new bone and would have more bone to lose, or you could continue to give them flouride in space.

"One of the theoretical problems is making new bone in space without gravity could result in the bone not orienting properly," Schneider said.

Schneider's team plans to study astronauts before and after shuttle flights, participate in studies of astronaut health maintenance in space, study bed-ridden patients and check on the impact of exercise.

They also will study post-menopausal Caucasian women who lose more bone mass than any other group of people, studies have shown.

Solving the bone resorption problem might also ease a related health risk for astronauts. Astronauts who are losing calcium from bones into the blood stream and kidneys run a greater risk of the discomfort of kidney stones.



Around town

Executive of the Year chosen

Ben Love, chairman of the board of the Texas Commerce Bank - Houston and chairman and chief executive officer of Texas Bancshares, has been named the **Texas A&M University of Business Administration's "Executive of the Year"**.

Love will speak on the future of banking in a address and awards presentation Friday at 10 a.m. in the 10th of the Academic and Agency Building.

The award is given each year in recognition of outstanding achievement and service by an individual executive who was selected by the the business school's Development Council, composed of 40 top Texas executives and a five-member executive committee selected by the dean of the college.

Love is a 1947 business administration graduate of the University of Texas at Austin. In addition, he is a director and president of Houston's River Oaks Bank Trust Co. and presently serves on the boards of directors of Cox Communications Inc., the El Paso Co., Hughes Co., Pan American World Airways Inc., Procter International Corp. and Texas Commerce Bank - Austin.

Library to sponsor Computer Fair

As a highlight of **National Library Week**, the Bryan Library and SCORÉ, Service Corps of Retired Executives, are sponsoring a **Computer Fair** Tuesday from 9 a.m. to 5 p.m. at the Bryan Library.

Microcomputers, software and other services will be displayed. There will be opportunities for hands-on experiences and demonstrations. Applications of computer technology for small businesses and homes will be emphasized.

Businesses participating in the fair will be **Computer Center, Young Electronics, Micro-Office Technology, A.B.E. Systems Inc., Custom Operating Systems Inc., Computerland and Sort-Data Corp.**

Alpha Zeta to install new officers

The Texas A&M chapter of **Alpha Zeta**, (the national cultural honor society) recently held elections for its new officers. The individuals elected were: **Robert Larson**, chancellor; **Tom Sames**, censor; **Albert Randall**, treasurer; **Gloria Sanchez**, scribe, and **John Jurek**, chronicler.

The officers will be installed at the Annual Spring Banquet tonight at 7 p.m. at the Brazos Center. The speaker will be **Maj. Kenneth Wolf**, formerly of the Department of Agricultural Economics. Tickets are \$5.50 for barbeque dinner. For more information call 846-4888 or 846-4990.

Texas A&M receives Westinghouse grant

A check for \$20,000 has been presented to Texas A&M University by the **Westinghouse Education Foundation** to support the university's proposal for the **"Development of Standard Integrated Circuit Laboratory Chips"**.

The payment is the first installment on a \$55,000 grant from Texas A&M from Westinghouse for use in this program. The payment of \$20,000 will be made in 1984 and \$15,000 awarded in 1985.

The initial payment was presented to Texas A&M by **Frank E. Vandiver** by **J.S. Wyble**, vice president of the Southwestern Region of the Westinghouse Electric Company in Dallas.

The integrated circuit laboratory chips developed by Texas A&M under this program will be used by undergraduate students in the university's electrical engineering program as an introduction to integrated circuit design.

If you have an announcement or item to submit for a column, come by The Battalion office in 216 Reed Hall or contact Tracey Taylor at 845-2665.

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Judge gets MADD over drunk drivers

United Press International
MCKINNEY — In an attempt to rehabilitate drunk drivers, a Collin County judge is sentencing them to work with families who have lost relatives in alcohol-related traffic accidents.

In the past month, Court-at-Law Judge Robert Harkins sentenced six people to work with the county's chapter of Mothers Against Drunk Drivers.

Donald Johnson of Plano was the first of the first-time offenders to be given the sentence. He refused to talk about it, but chapter founder Kelly English of Melissa, described their early encounters as "walking on thin ice."

English said the initial meeting was awkward, but that wore off and chapter members "didn't mind having him around at all."

"I don't see how anyone could get drunk and get in a car after they've worked with these people," Harkins said. "I believe Mothers Against Drunk Drivers are extremely motivated people, and this strong sense of commitment can be transferred to a first-time offender."

MADD was founded by a California woman whose daughter was killed by a drunk driver. Since then, chapters have been pushing for public pressure and legislation to stop drunk drivers.

The idea for sentencing drunk drivers convicted in Collin County to work with MADD originated with the chapter.

Spokesmen for MADD chapters in Houston and Dallas said Harkins' idea is a good one if offenders are willing to cooperate.

"We could take some of them, but they would be screened very carefully before they came in to work for our office," said Milo Kirk, president of the Dallas MADD chapter.

HEY! OFF CAMPUS STUDENTS

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SUN 8

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Arson charged in house-burning

United Press International
KENDLETON — Police charged a man with arson for burning down a house where rats bit his 7-week-old nephew so severely the child had to undergo facial plastic surgery.

Robert Lee Williams, 33, was arrested Friday and charged with the arson of a one-bedroom house where four children and four adults lived.

Kendleton Police Sgt. Clifford Thompson said Williams admitted torching the structure out of rage after health authorities condemned it and forced Williams' relatives to move elsewhere.

"He was angry," Thompson said. "He was mad because the house was condemned. But it was not liveable. It was terrible. There were rat holes 2 1/2 inches wide."

Thompson said the house was set on fire shortly after the family was evicted April 9.

"I saw lot of rats come there," he said.

Authorities learned Williams' infant nephew was bit by John Sealy Hays Galveston on April 6 when the rat bites. Thompson said the child had to have plastic surgery.

"Doctors reconstructed nose, some parts of his face some parts of his hand," a hospital spokesman said. "Doctors would not talk to us because the boy was before a court. State Judge Tom Stansbury scheduled a hearing in Reed Hall Wednesday to decide if the boy's mother, Williams, may regain custody."

The baby, hospitalized for days, remained in the Fort Bend County's Correction Service.

Thompson said the family moved in with