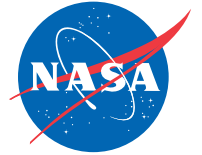
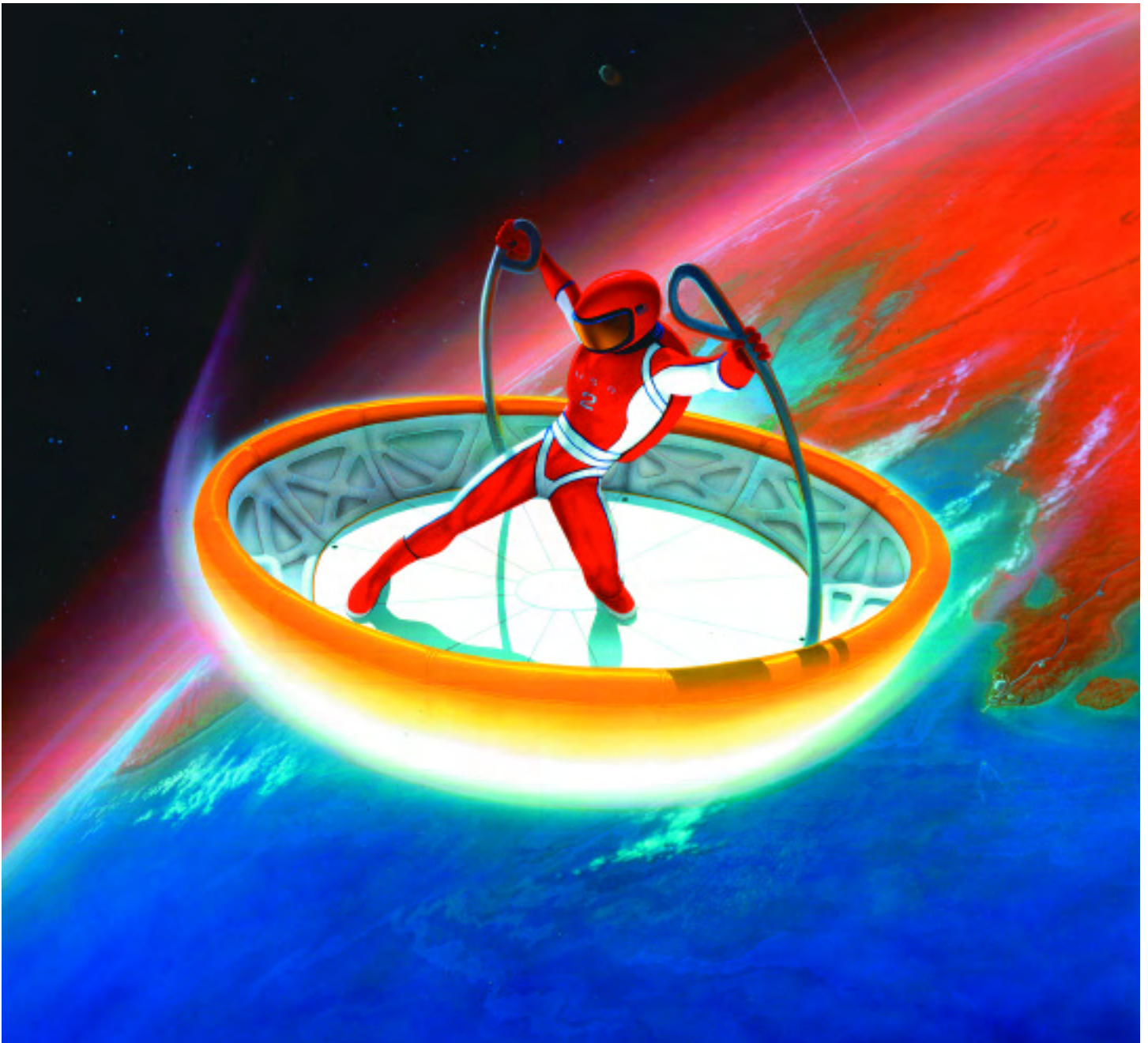


National Aeronautics and Space Administration



Lyndon B. Johnson Space Center

roundup



Finding a balance

MAY 2007 ■ volume 46 ■ number 5

JSCdirector

On the cover

A future space traveler takes a break from his routine, surfing through space, in the artistic rendering "Outside Break" by Pat Rawlings. Read more about the importance of relaxation and some of the ways astronauts help combat stress during missions on page 4.



I have been reading and learning a lot about mental health the last couple of months. While I was certainly aware of the various mental health conditions, I now have a much better understanding than I had before. I don't pretend to be any kind of expert, and I'm still learning, but I have drawn a few conclusions that are probably obvious to everyone.

Our society is becoming more and more frenetic and stressful. We may not be able to change that, but we have to learn to adapt and control it. Stress affects all of us in different ways, and some coping mechanisms are healthier than others. Drinking, overeating, etc., are not good mechanisms in the long run, while spending time with family and friends, exercising and taking time off are healthy ways to cope.

We all need balance in our lives. I have never had to tell anyone to work harder, but I frequently have had to tell people in this aerospace business to "go home and get a life." It is a fact that productivity decreases dramatically when we work long hours over an extended period of time. There are occasions when long hours are required in the space business, but if it becomes a habit, something is wrong. Take your weekends and vacations for yourself and your families. You'll be fresher and more productive at work.

We all need a support structure of family and friends. Humans are social beings, and being able to talk about the joys and stresses of life is critical. I'll say it again: Families come first! Flexible work hours are intended to allow us to get our jobs done while taking care of our families.

Help is available when you're feeling overwhelmed! The Employee Assistance Program is available for advice and counseling, and the Gilruth Center facilities and wellness programs are intended to help employees cope with the stresses of everyday life. If I am able to accomplish only one thing as director of JSC, it would be to create an environment in which we watch out for each other, support each other and ask for help if it is needed.

In a world that seems to be moving faster and faster, take the time to take care of yourself—physically and mentally.

A handwritten signature in blue ink that reads "Mike". The signature is stylized with a large, flowing "M" and a cursive "ike".

Before you hit 'send'



Why is e-mail etiquette important?

An organization needs e-mail etiquette rules for the following three reasons:

PROFESSIONALISM By using proper e-mail language our organization will convey a professional image.

EFFICIENCY E-mails that get to the point are much more effective than poorly worded e-mails.

PROTECTION FROM LIABILITY Employee awareness of e-mail risks will protect our organization in the future.

General pointers

- ☒ Determine whether e-mail is the appropriate communication medium. It's great for sending attachments or short messages, but it's not so good when human interaction (such as relaying bad news) is required.
- ☒ Keep in mind, e-mail communications may be subject to release under the Freedom of Information Act (FOIA).
- ☒ Keep e-mail notes short and to the point—no more than a couple of paragraphs. Just write what is necessary. Longer communications may require meetings.
- ☒ Avoid e-mail multipliers. Reducing e-mail overload requires monitoring your own e-mail habits and, in some cases, showing others how a little thought before hitting the “reply” key can save everyone time.
- ☒ Are you spending too much time drafting and reworking the note? If it is too confusing, think again. In those cases, a phone call may be better.
- ☒ Before forwarding an e-mail, ask yourself: Do I need to forward the original text? If it has been forwarded more than one or two times, it is generally a good idea to delete the original text. You also may need to ask the sender if it is OK to forward the note.
- ☒ Check your addressee box to ensure your message is sent to your intended audience.
- ☒ Return e-mail you should not have received: You might be on “reply all” lists that you were always on. One returned note saying you don't need these reduces inbox growth.
- ☒ Be cautious of e-mail tone. Use of bold lettering, capitals, underlines and color can emphasize a message, but it can do it in a negative manner.



- ☒ Be careful about including too many attachments (especially photo files). Attachments can be large files and can cause the e-mail system or your individual e-mail box to exceed its size limits.
- ☒ Don't assume that everyone reads e-mail throughout the day. Many people get so many notes during the day, or are tied up in meetings, that sometimes they do not get to e-mail until they get home.
- ☒ “Reply all” typically is an irritant because you are now included in a pseudo chain letter.
- ☒ Do not use e-mail as a chat room.
- ☒ It is inappropriate to use “cc” to include a senior manager on a topic that should be addressed with a supervisor, coworker or colleague.

Sensitive information

- ☒ How sensitive is this subject? Is it bad news to the recipient?
- ☒ If my e-mail ended up on the 6 p.m. news, would it bother me?
- ☒ If the recipient misunderstands my e-mail, how big an impact will it have?
- ☒ Use PKI encryption, and be sure your recipient has the same type of encryption.
- ☒ Remember, using PKI encryption does not prevent your e-mail from being releasable in response to an FOIA request.

Mv space

A home away from home



Astronaut Edward M. (Mike) Fincke, Expedition 9 NASA ISS science officer and flight engineer, enjoys eating a fresh apple in the Zvezda Service Module of the International Space Station.

Compiled by Kendra Phipps

DURING A SPACEFLIGHT,

astronauts are living a lifelong dream. They are also living in unfamiliar conditions, far away from almost everyone and everything they've ever known, including gravity. The strange isolation of a long-duration mission can lead to stress for even the toughest space traveler. Johnson Space Center teams work hard to help astronauts unwind during their downtime. Below are some of the methods used to help them feel just a little more at home.

Music

JSC's Operational Psychology Group provides psychological support to International Space Station astronauts. One item in the group's tool kit is music, which can serve as a memory trigger, a mood lifter, an exercise motivator and more.

"When we hear different pieces of music, it triggers memories and moods," said Walt Sipes, chief of operational psychology. The team burns music onto discs for crew members before each mission, and sends additional files electronically later on.

In addition to listening to music, some astronauts also create it, using the instruments that have found their way to the station over the years. Expedition 4 Flight Engineer Carl Walz brought a keyboard with him, which has been enjoyed by several station crews.

Flight Director Cathy Koerner agrees about the importance of music as a form of on-orbit stress relief. "Music, like other forms of recreation, is an essential part of the crew's well-being," she said.



Expedition 3 Mission Commander Frank L. Culbertson plays a trumpet in the Quest Airlock.

Care packages

JSC's Behavioral Health and Performance Space Medicine Group, which includes the Operational Psychology Group, strives to make space feel more like home for long-duration crew members. The team does this by setting up family videoconferences, e-mailing news updates and sending electronic copies of the latest movies.

The group also sends up tangible reminders of home in the form of crew care packages. These special deliveries, which arrive on space shuttles and Russian Progress spacecraft, contain items such as pictures, snack foods and handwritten cards and letters. Around the holiday season, care packages often contain festive, personalized Christmas stockings for each crew member made from Nomex, a colorful and fire-resistant fabric. Astronauts and cosmonauts also deck the "halls" of the space station with a custom-designed Nomex Christmas tree, which was delivered by STS-112 and is reused each year.

Food

Although food seems basic to the ordinary person, it is much more important when you do not have ready access to a grocery store. Food becomes a priority when it is one of the few connections an astronaut has to home.

"Being on space station, so much of what is going on is beyond their control," said Vickie Kloeris, manager of International Space Station Food Systems. "And so food is just a comfort thing that they would like to feel they have some input on or some control over. It's just a big psychological thing. I don't know if we've flown anyone to station (who) has not been concerned about their food."

The Space Food Systems Laboratory at JSC does all it can to ensure the astronauts are happy when it comes to their meals. Crew members are included in the menu-selection process months before launch, and the meals are stowed pantry-style on board the space station so that the astronauts can eat the items in any order they wish. More variety—especially fresh food items such as fruit—is provided when a Russian Progress vehicle docks to the station.

Food Services Director/Facility Manager, Emilce (Emmy) Vest, agrees that comfort food is of the utmost importance, especially when astronauts are in space. "In situations where there is little

outside stimulation and we're somewhat lonely, food becomes more of a focus because it gives us sensual and chemical stimulation," Vest said. "We also crave the social payoff in 'breaking bread' with our companions."

"Taste is one of the first senses with which we explore the world," Vest said. "Our primitive brain is hardwired to equate food with 'home' and safety. When we're hungry, we're all 2 years old."

Exercise

The feeling of floating in microgravity can be freeing, thrilling, exciting—and damaging. In space, an astronaut's bones don't have to support the body's weight, and they begin to deteriorate over time. The station has special exercise equipment on board that is designed to counteract this, and crew members work out on this equipment nearly every day, often for hours at a time. At the same time, they're also reaping the psychological benefits of exercise. For more on this, see page 8.

In a recent Roundup column, Center Director Mike Coats reminded JSC employees of the benefits—both mental and physical—of staying active:

"The Exploration Wellness Program is your program, designed to encourage the JSC team to make healthy decisions and take responsibility for its overall well-being. Individual wellness is an important contributor to a safe and highly effective workforce at JSC, but more importantly each and every one of us owes it to our families to take good care of ourselves as much as we take good care of them.

Recent research shows that any exercise has significant benefits, and the Exploration Wellness Program and Beak's Body Shop provide all the help anyone could need. Taking care of yourself is something you owe to yourself, and, more importantly, something you owe to your family. I encourage you to make it a priority in your daily activities."



Astronaut Leroy Chiao, Expedition 10 commander and NASA ISS science officer, equipped with a bungee harness, exercises on the Treadmill Vibration Isolation System in the Zvezda Service Module of the station.

Employee assistance program

The EAP

by Joanne Hale

Our NASA family at Johnson Space Center is made up of many different types of people, including engineers, scientists, researchers, administrative support personnel, astronauts, groundskeepers and physicians who work together toward the common goal of human spaceflight—an endeavor that often requires people to go above and beyond their normal duties, and many times results in stress.

As in any family, support is essential to the success of each member, and the JSC Employee Assistance Program (EAP) is here to help. The EAP offers its services free of charge to all employees on site—civil servants, contractors and their families—who are experiencing difficulties with things such as:

- Emotional health disorders
- Family/relationship problems
- Financial/legal concerns
- Alcohol/drug abuse
- Grief/loss
- Stress management

The EAP therapists are trained to provide assessment and counseling and can put clients in touch with a wide variety of community resources. To the extent allowed by law, governmental guidelines and NASA policy, all voluntary contacts with the EAP are confidential and the employee's right to privacy is respected.

Job security and job promotion opportunities are not jeopardized in any manner by an employee's request for counseling or referral assistance by the EAP.

Jackie Reese, director of the EAP, says the JSC environment is hard-driving, hard-working and high-performance and requires a specialized approach when dealing with mental health issues.

"Our population is different from many work environments, in that our folks are very gifted intellectually and likewise have an amazing ability to compartmentalize what is going on in their lives, which is great for their jobs. You will seldom see someone out here get to the point where they cannot function in their

job, no matter how bad they feel," Reese said. "But then, by the time they come into the EAP office, they are often feeling really bad. Folks out here have a stronger capacity to be what I call 'the walking wounded.' They are so high-functioning that a little decrease in their performance doesn't even show up."

One challenge that the EAP office faces is reducing the stigma that is often associated with mental health. Many people believe they should be able to handle the problems that life throws their way on their own and wait until the problem reaches a crisis state before asking for outside help.

"There is a belief that people should be able to think their way through anything that is emotional," Reese said. "The truth is that our folks are so bright that, when they do come in and get the tools they need, they usually take them and run with them and tend to recover quickly. But, it is tougher for them to get here."

JSC Director Mike Coats supports the EAP and its efforts to educate people on the importance of mental health.

"Our mental health is just as important, and vulnerable, as our physical health. We don't hesitate to seek help for our physical health, and there should be absolutely no stigma attached to asking for help with our mental health as well," Coats said. "The people attracted to this space business are invariably overachieving and highly motivated multitaskers. But while we all learn to compartmentalize, and in fact focusing on our task at hand is a basic tenet of our safety culture, we are not immune to the effects of stress and distractions."

The lessons learned from the *Challenger* and *Columbia* tragedies have resulted in more awareness among employees on the importance of mental health. This insight, along with support from upper management has, according to Reese, created a compassionate environment at JSC.

"Mike Coats genuinely has a deep concern for the welfare of the employees out here, both the physical and mental," she said. "People here at JSC, and in society in general, have been more open about their mental health struggles. More and more people talk about their inner battles publicly and describe their journeys of recovery. It helps when you put a human face on it and see who the people are that are suffering—we are."

Being a part of the larger NASA family has its pros and cons when it comes to mental health. Because JSC becomes part of many employees' identities, the boundaries between work and home can become blurred, which can add even more stress.

"We are justifiably proud of our success in flying humans in space, but it is stressful by any reasonable definition. While some stress is healthy, we all have our limits. It is critically important to acknowledge those limits and ask for help when those limits are exceeded," Coats said. "The EAP office is staffed with experienced and capable people who are well trained to deal with stress and



Jackie Reese

mental health issues. Please don't hesitate to ask them for help."

Stress can be brought on by a series of events that eventually eats away at a person's ability to cope. Many times this is directly related to a modern lifestyle that leaves little time for relaxation.

"It could be due to something going on at work, a trauma, the impact of physical illness or mental illness, or a series of events where

people just don't get a break. That happens a lot in our culture because most families are two-income families; they are trying to raise kids and they are in a very high-achieving community," Reese said.

An effective strategy to reduce stress is to learn to let go of things that are out of your control and not waste precious energy on them.

"Things like the budget or which president will be elected and will they support the space program, or contract negotiations—these are things that people cannot control. Employees would do far better to spend their energy taking care of themselves while they are going through those uncertain times," Reese said. "Those are the times that I tell people, 'If

you are not sure of what is ahead of you, put your energies into developing a Plan B.'"

Many JSC employees feel right at home when they are working a mission because they are doing what they are trained to do. JSC Deputy Director Bob Cabana points out that stress can be a great motivator as long as it does not go unchecked.

"No team is more focused and driven to excel than ours when we're in the heart of a mission or we have a time-constrained problem to resolve," Cabana said. "We rise to the challenge and place all our energy in 'working the issue' to the exclusion of everything else in our (lives). This compartmentalization and focus helps us succeed in our mission and brings us personal satisfaction in our work, but it can sometimes have an adverse effect on other parts of our lives. The EAP offers resources that help us understand how stress can impact us in both a positive and (a) negative way and can also help

get things back in balance when we're having a difficult time doing it on our own."

One analogy that Reese uses to describe the importance of taking care of your mind is to think of it as a machine that needs proper maintenance to perform at peak levels.

"The same people that sit and tell me that they can't make it to a yoga class, or take a day off or a vacation, would find a way to fix it if you put a problem with the shuttle or station in front of them," Reese said. "I try to encourage them to use that same problem-solving and direct it to themselves, where it really isn't an option to not have a solution."

Reese emphasizes the importance of the four pillars of stress management—exercise, nutrition, sleep and social support—saying that a balance of each goes a long way toward maintaining a healthy lifestyle.

"It is about committing to yourself and recognizing that, as wonderful a machine as the human body is, you have to take care of it (as) you do anything else. We humans tend to take this machine for granted and don't do the proper maintenance on it until it starts to have trouble," Reese said.

"A lot of what we do is really not mysterious. We do a lot of teaching here and a lot of coaching to give people life skills. The reason that people need an EAP is because life presents problems. And just (as) people have to learn how to take care of their teeth, their muscles and their body systems, problems tax people's minds. They need to learn how to cope and learn different ways of resolving things."

Effects of stress

Heart disease
Muscular tension
Compromised
immune system

Less resiliency
Diminished ability
to problem solve
Exhaustion

*We humans
tend to take
this machine
for granted
and don't do
the proper
maintenance
on it until
it starts to
have trouble.*

Jackie Reese

Interventions

- Exercise (try five vigorous minutes morning and evening)
- Drink water
- Walk, dance
- Sleep (at least eight hours)
- Eat healthy foods
- Take a good stress formula supplement
- Do deep breathing exercises
- Avoid alcohol, caffeine, sugar, and processed foods
- Avoid comfort eating
- Take a break from the task to "reboot" your brain and let your mind go blank for a minute
- Do something "mindless"
- Read something funny
- Avoid negative thinking
- Do a gratitude list
- Talk it out
- Write it out—journaling
- Cry it out
- Bring in joy—plants, pets, people
- Do recreation, a hobby, volunteer
- Don't isolate
- Don't bottle it up

Signs of a problem

Decline in functions

Feelings of being
overwhelmed

Hopelessness

Self-destructive or
self-defeating thoughts

Feelings of powerlessness
over circumstances

OPERATING AT PEAK PERFORMANCE

A user's manual

by Catherine E. Borsché



At Johnson Space Center, the well-known phrase “Failure is not an option” describes the level of determination we have when it comes to working in the realm of human spaceflight. But when it comes to our bodies, we often lack the same tenaciousness it takes to keep our physical health and well-being in top form. While going through the rigors of daily life, including work and family, we lose ourselves in tasks and forget that sometimes it is not selfish to put ourselves first.

Thankfully, we at JSC have the Exploration Wellness Program, committed to the total health of our workforce. The program emphasizes healthier living and lifestyle modification through exercise, nutrition, proper rest and the elimination of negative habits, such as smoking.

“It’s all a balance. You have to have enough of each component, whether it’s mental, physical, emotional or spiritual,” said Jennifer Blok, Exploration Wellness program manager. “If you can balance your physical health, then of course you’re going to feel better, which improves your mental health overall.”

Fitness is not just about having a great body or improving physical function—it also helps you cope with what everyday life happens to throw at you.

“When I think of the mental component of exercise, I think of the people who are going through some type of depression or family issues,” Terence Davis, Starport Fitness and Recreation manager, said. “Normally people will revert to smoking, drinking or eating to cope. With the programs we offer here, we are letting people know that there are other options opposed to going down that negative path, be it drugs or whatever else the situation may be.”

Regular physical activity can improve your mood and, as a great side effect, the way you feel about yourself. Researchers have found that exercise and a good dose of sleep can reduce depression and anxiety and help with stress management.

But exercise and rest are just a few pieces of the well-being puzzle. Nutrition plays a dramatic role in it, too.

“Proper nutrition allows you to perform at your peak, both mentally and physically. Eating balanced meals with plenty of fruits and vegetables gives you the mental stamina necessary to stay focused during a busy day of work,” said Kristi Polasek, registered and licensed dietician for Exploration Wellness. “Foods that have omega-3 fats and complex carbohydrates high in B vitamins can help improve your mental function, emotional stability and energy levels.”



“... balance your physical health, then of course you’re going to **feel better**, which improves your **mental health** overall.”

JENNIFER BLOK

When we are deficient in certain food groups, our bodies cannot function properly, and that can affect our performance at work and home.

“In order to function ‘on all cylinders,’ it is essential to eat complex carbohydrates, lean protein and heart-healthy fats. You also want to strive for a minimum of five servings of fruits and vegetables a day to provide the vitamins, minerals, fiber and antioxidants important for a healthy mind, body and heart,” Polasek said.

Exploration Wellness is proactive in its plans to improve the health of everyone at JSC. Through the online Exploration Wellness Assessment, which civil servants and contractors alike can participate in, the program is gathering aggregate data to find ways to better serve the workforce.

“We are encouraging employees to do the wellness assessment so that we can find hot spots of interest. For instance, say our civil servant population has a very high stress level. We can actually develop a program to take out to them so they do not have to leave their workplace to come see us,” Blok said. “We have a reason for everything we offer, and the assessment gives us the data to back it up.”

Exploration Wellness offers a gamut of services, ranging from group exercise classes, behavior-change programs, massage therapy, nutrition and population-specific courses, which include classes such as Fit Pregnancy and Type II Diabetes. The Web site provides online seminars and incentive programs. For anyone struggling with certain health topics, there is also personalized training available and one-on-one counseling for those who battle issues with high cholesterol, unhealthy eating habits, and diabetes or weight loss. Sports recreation leagues also give employees a fun

alternative to get moving and build relationships with their peers on site.

Many JSC team members are enthusiastic participants in Exploration Wellness and use it regularly, such as Bobby Simpson II, a technical analyst for Science Applications International Corporation.

“Working out is essentially vital to my overall well-being. It seems that most individual thinking on exercise is that it’s a burdensome chore that interrupts the flow of their day, and the only reason (to) even incorporate exercise is more out of guilt than anything else,” Simpson said. “When exercise becomes fun and rewarding, it creates a completely different outlook. Regular exercise makes me feel better physically, which concurrently creates a euphoric-type atmosphere in my daily routine. This type of euphoric atmosphere makes everything around me that much better, and it’s all simply created by taking about a half-hour out of my day and devoting it to myself.”

But even if strapped for time, there are still little things you can do during the day to make it more bearable, specifically if you are stressed out.

“We tend to try to work through stress or emotional distress instead of stopping and paying attention to what we really need. Take breaks, walk the stairs, stretch and take some deep breaths throughout the day,” Blok said. “Something is always better than nothing.”

For more information about Exploration Wellness and Starport Fitness, visit:

<http://www.explorationwellness.com>

<http://starport.jsc.nasa.gov/Fitness/default.htm>



Client using weights in the Olympic Rack of the Starport Fitness Center.

Keeping pace in space

by Eldora Valentine

Two hundred and ten miles above Earth, Expedition 15 crew member Sunita Williams attempted something no other person has ever done. She ran the Boston Marathon while on orbit.

Williams circled the Earth at least twice, running as fast as six mph, but flying more than five miles each second, as she completed the Boston Marathon on a station treadmill. Her official time was 4:23:10 as she completed the race at 2:24 p.m. EDT Monday, April 16.

Williams ran under better weather conditions than her Boston counterparts. In Boston, it was 48 degrees with rain and mist and wind gusts of 28 mph, while station weather was 78 degrees with no wind or rain and 50 percent humidity.

The Boston Athletic Association had issued Williams bib number 14,000. The bib had been sent electronically to NASA, which forwarded it to Williams. She's a Needham, Mass., native and says her reason for running the marathon is simple. "I would like to encourage kids to start making physical fitness part of their daily lives. I thought a big goal like a marathon would help get this message out there."

Regular exercise is essential to maintaining bone density while in space for astronauts. "In

microgravity, both of these things start to go away because we don't use our legs to walk around and don't need the bones and muscles to hold us up under the force of gravity," Williams said.

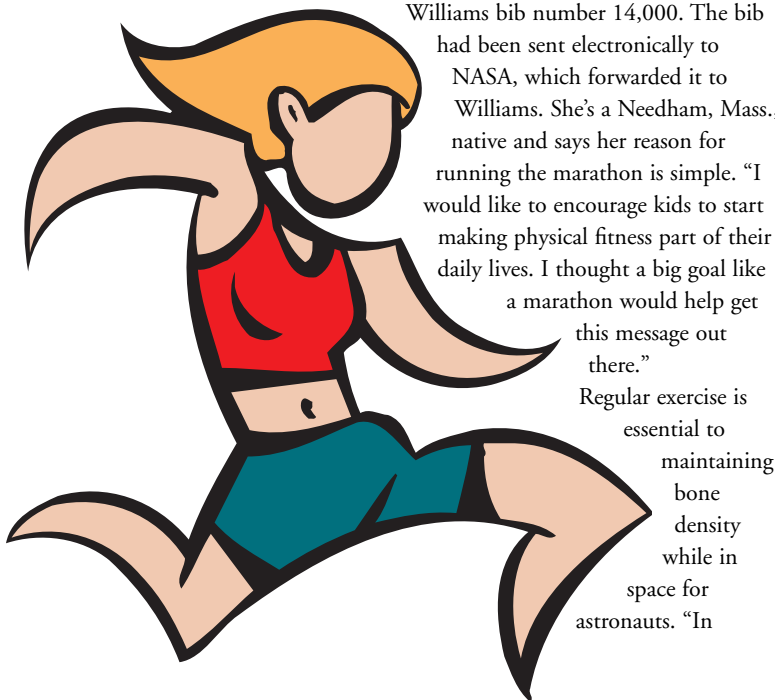
No one knows that better than Steve Hart. For two years, he's been Williams' flight surgeon. "There are specific challenges to staying healthy while in space. Sunita wants to make fitness the hallmark of her Expedition stay. She wants to educate and motivate others about being physically fit in general."

Williams, an accomplished marathoner, trained for the marathon for months while serving a six-month stint as a flight engineer on board the space station. She runs at least four times a week—two longer runs and two shorter runs.

Williams qualified for the marathon when she ran 3:29:57 in the Houston Marathon last year. Her biggest challenge running in space was staying harnessed to the specially designed treadmill with bungee cords. Williams said running on the Treadmill Vibration Isolation System (TVIS) can sometimes be uncomfortable. The machinery puts a strain on the runner's hips and shoulders.

Mitzi Laughlin is an Astronaut Strength, Conditioning and Rehabilitation coach at Johnson Space Center. She's been involved in planning Williams' rigorous exercise routine for a year and a half. "We've done a lot more TVIS work than we would normally prescribe for any astronaut. Suni has a superb fitness level. She's dedicated and perhaps one of our best runners."

Here on Earth, Williams has a huge support network. Fellow NASA astronaut Karen Nyberg, Williams' sister Dina Pandya and longtime friend Ronnie Harris were among the 24,000 runners participating in the marathon. Harris met Williams during their days together at the Naval Academy in Annapolis, Md. "Anything regarding Boston makes Suni light up," said Harris. "Her running passion is manifested in the best marathon in the world, which happens to be her home town. You need to experience the Boston Marathon to understand why she is (going to) do it in orbit."





NASA ISS014E19454

Astronaut Sunita Williams (left) circled Earth almost three times as she participated in the Boston Marathon from space. During the race, Williams ran at about six miles per hour while flying more than five miles each second, as she completed the marathon on a station treadmill.



Astronaut Karen Nyberg ran the Boston Marathon on the ground in support of Sunita Williams.



The NASA exhibit at the Boston Marathon Health and Fitness Expo offered astronaut autographs, photo opportunities and information on NASA's current and future missions.



BATTLE OF THE BATS

Astronauts duke it out at batting practice with Lane

On April 16, astronauts Mike Massimino, Terry Virts and Alan Poindexter took batting practice with Houston Astros outfielder Jason Lane. It mirrored a January event where four Astros players—including Lane—visited JSC to try their hands at a shuttle simulator.

Clockwise from top: Astronaut Terry Virts (right) talks with Astro Jason Lane.

Astronaut Mike Foreman is at bat while Astro Jason Lane looks on. In the background at left is astronaut Terry Virts.

Astronaut Mike Massimino takes a swing.



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