



The Campus Recreation Center at the Georgia Institute of Technology



USTA Resolution to Sharpen Focus on Campus Recreational Tennis

The USTA has adopted a resolution amended at NIRSA's insistence to recognize and affirm the value of recreational and varsity tennis programs.











Nomination deadlines are coming up, so take your chance to help us celebrate what our members do.





With four indoor recreation centers and a 23-acre park, UVA in Charlottesville hits the big time.





Mark Fletcher shows off the new 50,000-square-foot addition to UVA's Aquatics & Fitness Center, one of the school's four indoor facilities, which opened in June.





The second year of the National Collegiate Golf Championship Pilot Program is in full swing, doubling the number of schools that participated in 2003. The NCGC supports the NIRSA Foundation and donated over \$3,000 last year. Local Qualifiers start in September with over 30 events scheduled. Managed by the Collegiate Golf Alliance in association with NIRSA, the NCGC offers an excellent opportunity for your school to promote golf, support the NIRSA Foundation, and participate in a national championship. For a complete listing of host schools, information, and dates, please log on to http://www.cgagolflinks.com/ncgc.asp.



NIRSA Executive Director Kent Blumenthal has approved a deferral of membership dues payments for NIRSA members who are called away from their employment to serve in the current military action. NIRSA will freeze memberships during the time they are deployed and continue them upon their return to work. Members' records will, however, show uninterrupted membership for the time they are deployed.





NIRSA Know online reader survey results gathers readership feedback on a variety of issues.





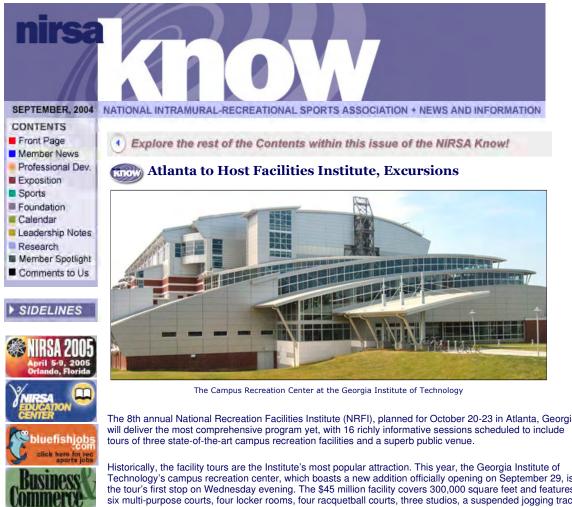
NIRSA National Center 4185 SW Research Way Corvallis, OR 97333-1067 Tel: (541) 766-8211 Fax: (541) 766-8284 Email: nirsa@nirsa.org NIRSA Know is a member service of the National Intramural-Recreational Sports Association. This message is being sent to members of NIRSA who have provided an email address. Should this material not pertain to you, please forward it to the appropriate individual. To be removed from distribution, reply to this email with "remove" in the subject line.





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NIRSA Know OnLine Newsletter





Technology's campus recreation center, which boasts a new addition officially opening on September 29, is the tour's first stop on Wednesday evening. The \$45 million facility covers 300,000 square feet and features six multi-purpose courts, four locker rooms, four racquetball courts, three studios, a suspended jogging track, an in-line/indoor soccer court, a climbing wall, a squash court, and a 14,000 square foot fitness center with over 190 pieces of equipment. The facility also features the 1996 Olympic Games pool and diving well, a 184-foot water slide, a spa, and a new leisure pool with six additional lanes for recreational swimming.

A mid-day tour of Georgia State University's 161,112 square foot student recreation center is planned for Thursday. Completed in the fall of 2001 at a cost of \$29.5 million and awarded the NIRSA Outstanding Facility Award in 2002, the center boasts four floors and over 15,000 square feet of fitness space with a suspended indoor track, a four court gymnasium, a multi-purpose court, an outdoor trip and rental center, a climbing wall, a leisure pool with spa, patio and sauna, three activity and meeting rooms, a conference and training room, a game room, and a generous lobby for special events.

Friday's scheduled tour begins with the University of Georgia's Ramsey Student Center, a \$37 million dollar facility funded with student fees and athletic fees and completed in the fall of 1995. The 430,000 square foot center is a shared use facility containing ten racquetball courts, five gymnasia, three pools, two squash courts, labs and office space, an one-eighth mile track, a climbing wall, three multi-purpose rooms, and 12,000 square feet of strength and conditioning space. The center accommodates 1.2 million user visits by 77 percent of the student body in the course of a year.

The exciting and versatile Arena at Gwinnett Center is Friday's second stop. Completed in 2003, this impressive 366,000 square foot multi-purpose facility is located just 30 miles north of downtown Atlanta in Duluth and can accommodate groups of up to 13,000. The home of the Georgia Force indoor football team, the Gladiators independent professional hockey team, concerts, family entertainment, and corporate events, the Arena provides the best possible environment for a wide range of events.

In addition to the tours and presentations, Institute attendees will enjoy a networking social, morning refreshments, and two lunches. For more details about the event, including daily schedule and hotel accommodations, and to register online, visit http://www.nirsa.net/education/facilities.htm. To receive the maximum registration discount, be sure to register by September 20, 2004.

USTA Resolution to Sharpen Focus on Campus Recreational KNOW Tennis

NIRSA is pleased to announce that the United States Tennis Association's Collegiate







Committee has amended and, as of September 4, adopted a proposed resolution to the USTA Board of Directors to include a new focus on the promotion of campus recreational tennis. Valerie McCutchan, NIRSA's Assistant Director of National Sports Programs, works closely with the USTA's "USA Team Tennis on Campus" program, and is excited about the resolution's increased recognition of recreational tennis. The new charge for the committees is to "promote and develop the growth of American Collegiate tennis, both varsity and recreational." With new emphasis on this mission, McCutchan feels sure that more energy will be directed towards recreational sports programs, noting that a \$20,000 stipend from USTA this year has made possible a distribution of funding for 21 grant proposals for the development of nine new programs and the expansion of 12 existing programs.

The adopted resolution commits the USTA Collegiate Committee to a new approach consisting of three primary tenets to ensure that the USTA (1) supports the importance of varsity tennis to their mission, (2) emphasizes the importance of community outreach in maintaining and promoting college programs, and (3) views recreational tennis on college campuses as a vital component to growing the game.

ADOPTED USTA BOARD RESOLUTION



University of Virginia off to a "Hot" Start with Newsweek Honor

It's not often one gets an email message of congratulations for an honor one has not yet officially received, but a few lines from a fellow administrator turned out to be the first blip on Mark Fletcher's radar signaling Newsweek magazine's recognition of the University of Virginia (Charlottesville) as the "Hottest for Fitness" in its annual feature, "America's 25 Hot Schools." Fletcher, UVA's Associate Director of Athletics and Director of Intramural Recreational Sports and NIRSA Foundation Board of Directors' Chair, had been interviewed by magazine staff (see item below) but was not notified that the honor had in fact been conferred with publication, resulting in a brief, happily disorienting moment.



Mark Fletcher shows off the new 50,000-square-foot addition to UVA's Aquatics & Fitness Center, one of the school's four indoor facilities, which opened in June.

Bevond that initial reaction, however, Fletcher says he's not altogether surprised that UVA should be so honored. With a department that he describes as taking a "university community" approach to participating, Fletcher believes that the sheer breadth and inclusive nature of UVA's fitness, intramural and recreational sports programs provide the true distinction. Because all members of the community are included and involved, participation is shared by all, with the result that faculty members have reported enjoying their highest level of interaction with their students while engaged in fitness and recreation activities on campus. All facilities and schedules are shared among faculty and students with the school's four indoor centers open for a weekly range of one hundred hours.

Although he has long harbored great confidence in UVA's unique approach to fitness and recreation, Fletcher views "being recognized for what it is that we do" by Newsweek as "a big source of pride." The publication of the honor has resulted in local media recognition, and will most likely occasion some form of public observance by the university at large this fall.

The complete feature can be accessed at http://www.msnbc.msn.com/id/5626574/site/newsweek

HOTTEST FOR FITNESS

University of Virginia, Charlottesville, Va. Long before the invention of the treadmill, Thomas Jefferson, the founder of UVA, wrote: "A strong body makes the mind strong." UVA follows that adage by offering both varsity competitors and weekend warriors some of the best fitness facilities in the country. Associate athletics director Mark Fletcher says 94 percent of all students use one of the four indoor recreation centers, which together make up 300,000 square feet of pools, running tracks, weight rooms and classrooms for yoga and kickboxing. The school also maintains a 23-acre park for outdoor field sports and jogging.



Nominations for the Association's highest annual awards are due in the next few months. Please help NIRSA celebrate our members by marking these deadline dates on your calendar, visiting the website for details, and submitting your nominations for worthy members of your NIRSA. Browse http://www.nirsa.org/secure/crss/index.htm for information about these awards, lists of current and past recipients, and nomination forms.

 The NIRSA Honor Award is the highest honor NIRSA bestows. Deadline for nominations is December 15.

- The Regional Awards of Merit are presented each year at the NIRSA National Conference to one member from each of the six NIRSA regions. Deadline for nominations is December 31.
- The Horace Moody Award recognizes professional members who have made contributions to student development by their encouragement, support, and performance. Deadline for nominations is January 31.
- The National Service Award acknowledges exceptional performance or dedication, encourages creativity and innovation, and establishes a standard of excellence in professional achievement. The deadline for nominations will be announced by October 1, 2004.

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Planning

a new

facility



SIDELINES



Whereas, intercollegiate varsity tennis represents the highest level of amateur tennis competition -

tennis, many juniors would not begin playing or pursue tennis; and

Whereas, intercollegiate varsity tennis has produced some great American professional players and supports the U.S. Davis Cup and Fed Cup programs; and

Whereas, the experience of playing intercollegiate varsity tennis has helped form some of the USTA's most outstanding leaders - volunteers and staff - and most of the best players at the club and league levels; and

Whereas, the experience of playing intercollegiate varsity tennis has inspired excellent players to become coaches and teaching professionals; and

Whereas, due to a number of factors, varsity tennis programs have, regrettably, been dropped from many American campuses; and

Whereas, the USTA recognizes the importance of having young men and women receive a college education and that a total collegiate experience -- academically, athletically, and socially -- will produce better, healthier citizens, more informed and enthusiastic volunteers, and stronger and more visionary leaders for the USTA and the country at the District. Sectional and National levels:

Whereas, the USTA recognizes that having strong competitive intercollegiate varsity tennis programs is vital to the future of tennis in the United States and to producing future players, citizens, volunteers, and leaders

Whereas, the USTA further recognizes that, in order to maintain the viability of intercollegiate varsity tennis and to develop and grow tennis programs on college campuses, (1) it is critical that colleges and college coaches promote campus and community outreach programs to strengthen the presence of tennis and its place within the on-campus and off-campus communities, (2) it is important to educate and mobilize recreational sports directors and the 16 million undergraduate students attending American colleges each year about the lifetime benefits of tennis and to provide opportunities for recreational tennis on college campuses to those 16 million undergraduate students, and (3) there needs to be a strong advocacy network comprised of key individuals who are passionate about having varsity tennis programs and recreational tennis opportunities on college campuses (the "Advocacy Network"):

Now, Therefore, Be It Resolved That:

The USTA Board of Directors hereby recognizes and proclaims that intercollegiate varsity tennis has been, and should continue to be, an essential part of American tennis, that having resilient and competitive intercollegiate varsity tennis programs inherently supports the mission of the USTA, and that the USTA will strongly support and promote intercollegiate varsity tennis in the United States, including through community outreach, recreational programs, and the Advocacy Network.

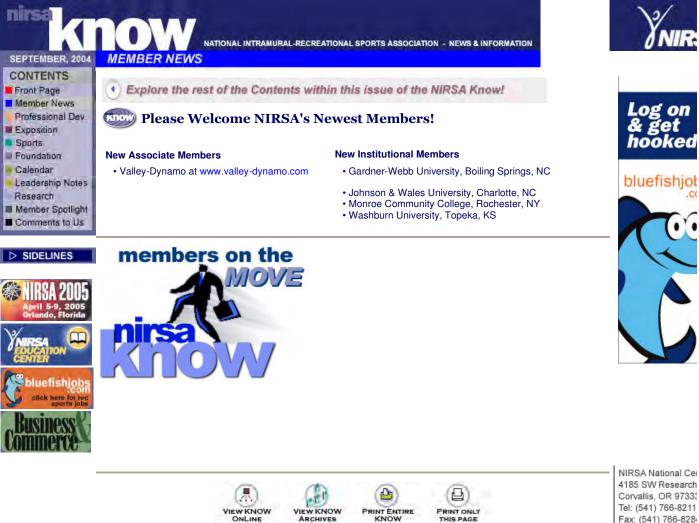




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Move? Members On the Move is a NIRSA service for all Professional Members. If you have relocated, please submit the information using the online form or call the Membership Department at NIRSA at (541) 766-8211





Illinois. Professional and student members who are interested in presenting at this event can submit a presentation proposal form on the NIRSA website at: http://www.nirsa.net/education/fitness.htm. Accepted presenters (excluding roundtables) will receive a registration fee discount of \$100. At the discretion of the lead presenter, the discount may be shared equally between a maximum of two co-presenters. (Only NIRSA Professional and Student Members are eligible for registration discounts.) For more information contact Valerie McCutchan: valerie@nirsa.org at the NIRSA National Center.



National Marketing Institute: Come, Learn, See Seattle at Festive Best

December 1-3, 2004, Red Lion Hotel, Seattle, WA Click here for Online Registration - Save Money: register before November 1st!

Grunge Rock, Starbucks, Jimi Hendricks, Bill Gates, Puget Sound, Mt Rainier and flying fish at the Pike Street market are just a few of Seattle's famous names and places, but this December NIRSA presents yet another: the 2004 National Marketing Institute. With its downtown Seattle venue at the Red Lion Hotel, this is sure to be a fun and informative event-following upon the success of the first two institutes in Las Vegas, 2000, and in New Orleans, 2002.

Basic and advanced tracks at this year's Institute will provide both professionals and students with an expert perspective on the ins and outs of marketing. Seasoned and aspiring marketers will network to gain a glimpse of marketing strategies and techniques that succeed on their campuses. Attendees will hear excellent keynote speakers, sit in on assorted workshops, and learn from the professionals in the field of recreational sports marketing. This Institute will provide vital skills necessary for improving or starting an effective marketing program, with presentations that will address a variety of topics, including public relations, promotions, brand marketing, corporate sponsorships, fundraising, strategic planning, market research and graphic design.

As always, NIRSA members receive discounts on registration, so reserve your place at this symposium and see why one attendee said, "If you feel like you are at a dead end or you just getting started, the Marketing Institute will lead you in the right direction." Go to this page for more information on registration and accommodations.

Guest speakers:

Kit Morris - NIKE's Director of College Sports Marketing. "When Business and Higher Education Meet: A Sports-Based Model for College Marketing"

Kit will speak on the potential "intersection of interests" among business, higher education, and college

LEVEL H

June 7-10, 2005

Holiday Inn Oceanfront

Hilton Head Island, South Carolina

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sports (including recreational and club sports). He will spend a little time examining the history of college sports in order to provide some context, and then offer some observations and practical, real world advice on what interests these activities hold from businesses.

Kit Morris is a 1973 graduate of the University of Mississippi. A former teacher, he earned a Master's degree from Harvard's Graduate School of Education in 1978 and served as director of athletics at Harvard, Yale and Davidson College from 1985 through 1989. Beginning in 1990, he served as executive director of the Knight Foundation Commission on Athletics, and in 1995 he accepted a position at NIKE, where for the past seven years he has been NIKE's Director of College Sports Marketing.

Silvana Clark - "Taming the Marketing Jungle: Marketing With a Big Imagination and a Small Budget". Silvana Clark transforms ordinary experiences into extraordinary events! With a background in recreation and leisure, she uses her skills and knowledge to teach audiences to think more creatively and to enjoy the process while surviving the stresses of "the jungle" in today's busy world. Her sessions are dynamic, entertaining, and highly visual with lots of audience participation. Silvana began her professional speaking career in 1990 when people wanted to know how she got her dog to star in commercials for Honda, Chrysler, Reebok, Red Devil Paint, and many others.

Since 1990, Silvana has logged many frequent flyer miles as a professional speaker across the US, Canada and overseas. Her clients include the US military in Germany and Japan, many state agency events and numerous health care organizations. In addition, Silvana has written six books, including *Surviving the Marketing Jungle* and over 150 magazine articles. Her book, 600 Tips For Directors, received the 1997 Early Childhood News National Award. She also received the "Outstanding Recreation Programmer "award for Washington State.

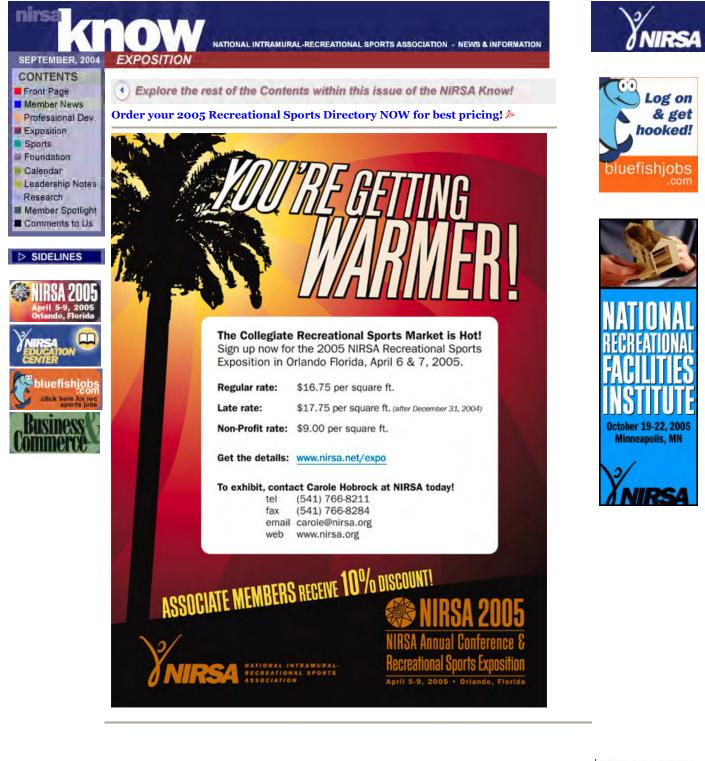
Sid Gonsoulin – NIRSA's Past President and Associate Vice President of Student Affairs/Executive Director Recreational Sports at the University of Southern Mississippi, Sid will present an overview of the important marketing information found in the Kerr & Downs Research Report completed in 2002. Recently published as *The Value of Recreational Sports in Higher Education*, this presentation will show you how to leverage this valuable marketing information to your advantage as you market and promote the facilities and programs on your campus.





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Minneapolis, MN









Arizona State University held a special tennis event during their orientation week as part of the Tennis on Campus Program. ASU staff set up a table at the "Passport to ASU" held in the Student Recreation Center. During the event, which attracted more than 5,500 students, they handed out USA tennis prizes provided by USTA. They also gave away a canister of balls to everyone who signed up for the new USA Tennis League or tennis sport club. ASU had 75 students sign up for tennis sport club and 20 new league players. Chad Ellsworth, the intramural coordinator said "the funding from USTA allowed ASU Recreational Sports to raffle prizes and also to give away tennis balls for everyone who signed up for league tennis. This attracted more students to the tennis booth." If you are interested in hosting a "Tennis Awareness Day" on your campus, contact Valerie McCutchan, valerie@nirsa.org, or call the NIRSA National Center (541) 766-8211.





The 2005 NIRSA Collegiate Volleyball Sport Club Championships will be held April 14-16 in Kansas City, Missouri, at the Bartle Hall Convention Center. Essential information for teams, including important dates to remember, hotel and transportation information, divisional structure and eligibility guidelines are all posted on the website. All eligibility has remained the same; however, there have been some divisional structure clarifications from the previous year. Any changes from the previous year are noted in red on the NIRSA Network at http://www.nirsa.net/sc/vb/index.htm.

ໜ 2005 NIRSA Basketball Hosts Announced

NIRSA is pleased to announce the 2005 NIRSA Endorsed Regional & National Basketball sites. For more information, contact hosts listed below, visit http://www.nirsa.net/spoend/index.htm or email Valerie McCutchan at the NIRSA National Center: valerie@nirsa.org.













• November 16-17, 2004

Foundation Midyear Meeting: Tempe, AZ Pamela Hutcheson, NIRSA National Center: pamela@nirsa.org, (541) 766-8211, ext. 34

- November 18-21, 2004
 Louisiana State Workshop: New Orleans, LA
 Jimmy Pitre, McNeese State University, jpitre@mcneese.edu, (337) 475-5370
- November 18-20, 2004

Soccer Sport Club Championships: University of Texas, Austin, TX Valerie McCutchan, NIRSA National Center, valerie@nirsa.org, (541) 766-8211, ext. 15

• December 1-3, 2004

National Marketing Institute: Seattle, WA Barry Brown, NIRSA National Center, barry@nirsa.org, (541) 766-8211, ext. 13

• December 3-5, 2004

National Collegiate Golf Championship, Las Vegas, NV Mike Munson, info@cgagolflinks.com, (413) 332-6038

- December 24-31, 2004
 NIRSA National Center closed for the holidays
 Kiki Alexander, NIRSA National Center, kiki@nirsa.org, (541) 766-8211, ext. 11
- January 28-29, 2005
 Region III Student Lead-On: Chicago, IL
 Dan Wahl, Ball State University, dkwahl@bsu.edu, (765) 285-1753
- February 4, 2005

TIRSA (Tennessee Intramural-Recreational Sport Association) State Workshop: Clarksville, TN David Davenport, Austin Peay State University, davenportdl@apsu.edu, (931) 221-1242

• February 10-12, 2005

Region IV Student Lead-On: San Marcos, TX Daniel Vasquez, Texas State University (San Marcos), dv04@txstate.edu, (512) 245-2392

- February 18, 2005 Nebraska and Friends, Wayne, NE Jim Langel, james.langel@uni.edu, (319) 273-7160
- February 18-19, 2005

14th Annual Emerging Recreational Sports Leaders Conference: Florida International University Demond Pryor, Oakland University, Rochester, MI, pryor2@oakland.edu, 9248)370-4881, or Sikirat Kazeem, Texas A&M University (College Station), skazeem@rec.tamu.edu, 9979)862-1857

• February 22, 2005

National Recreational Sports Fitness Day: Nationwide Sarah Hubert, NIRSA National Center, sarah@nirsa.org, (541) 766-8211 ext. 20

• March 10-12, 2005

USA Team Tennis National Campus Championship: San Diego, CA Valerie McCutchan, NIRSA National Center, valerie@nirsa.org, (541) 766-8211, ext. 15

• April 2-4, 2005

NIRSA Board of Directors Year-End Meeting: Orlando, FL Kiki Alexander, NIRSA National Center, kiki@nirsa.org, (541) 766-8211, ext. 11

• April 5-9, 2005

*Annual Conference & Recreational Sports Exposition: Orlando, FL Karen Bach, NIRSA National Center, karen@nirsa.org, (541) 766-8211, ext. 17

• April 14-16, 2005

Volleyball Sport Club Championships: Kansas City, MO Mary Callender, NIRSA National Center, mary@nirsa.org, (541) 766-8211, ext. 14

• May 11-14, 2005

Big 10 Recreational Sports Conference: Columbus, OH (The Ohio State University) Contact: Jilaine Anderson, anderson.1049@osu.edu, (614) 688-8787, or Kurt Carmen, carmen.7@osu.edu, (614) 688-3587

May 18-20, 2005

National Fitness Institute, DePaul University: Chicago, IL Valerie McCutchan, NIRSA National Center, valerie@nirsa.org, (541) 766-8211, ext. 15

• June 7-10, 2005

National School of Recreational Sports Management-Level II: Hilton Head Island, SC Karen Bach, NIRSA National Center, karen@nirsa.org, (541) 766-8211, ext. 17

• June 9-11, 2005

Collegiate Sport Club Symposium: Hilton Head Island, SC Mary Callender, NIRSA National Center, mary@nirsa.org, (541) 766-8211, ext. 14

- June 21-24, 2005 (Tentative) NIRSA Board of Directors Summer Meeting: Corvallis, OR Kiki Alexander, NIRSA National Center, kiki@nirsa.org, (541) 766-8211, ext. 11
- October 19-22, 2005
 National Recreation Facilities Institute: Minneapolis, MN
 Karen Bach, NIRSA National Center, karen@nirsa.org, (541) 766-8211, ext. 17
- October 27-31, 2005
 - Region II Conference: Jacksonville, FL Cruise ship out of Jacksonville, FL, hosted by the State of South Carolina Gary Pogharian, University of South Carolina, Columbia, pogharia@gwm.sc.edu, (803) 777-4694,
- April 1-3, 2006 NIRSA Board of Directors Year-End Meeting: Louisville, KY Kiki Alexander, NIRSA National Center, kiki@nirsa.org (541) 766-8211, ext. 11
- April 4-8, 2006
 Annual Conference & Recreational Sports Exposition: Louisville, KY
 Karen Bach, NIRSA National Center, karen@nirsa.org, (541) 766-8211, ext. 17
- * Potential Certification Exam Site

Certified Recreational Sports Specialist (CRSS) exam applications are available through the NNC Education Department. Individuals must submit a complete exam application accompanied by the appropriate documentation and fee to the NIRSA National Center a minimum of 30 days prior to the preferred testing date. Applications will be reviewed and applicants will be notified of their eligibility to take the examination. The NNC will handle requests for special auxiliary aids during testing, if a written description of the need is attached to a complete application. Both the application and request must be received at the NNC 30 days before the proposed testing date.

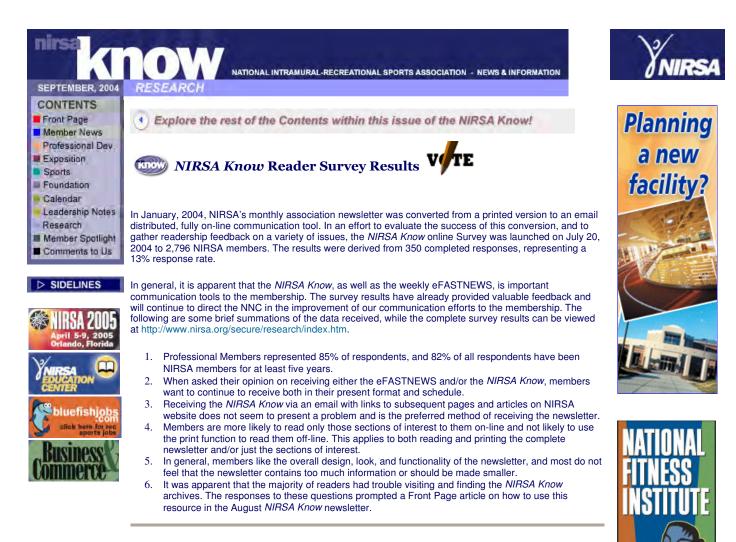
> Deadlines for Nomination of Awards/Scholarships/NIRSA Offices/Bylaws and Amendments CLICK FOR MORE INFO



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Regular Physical Activity Really Does Boost Immune System In Older Men

From a study conducted by Monika Fleshner, Taro P. Smith, and Sarah L. Kennedy, all from the Department of Integrative Physiology, University of Colorado (Boulder).

As they get older, many older people, mostly men, are fond of saying something along the lines of, "I feel like a 25-year-old."

As it turns out, judging by the reaction strength of their immune system to an unknown, but harmless, protein antigen, it's possible for men over 70 to mount an immune response similar to that produced by much younger men -- if they get regular moderate physical activity of about six hours a week.

Previous studies show that the aging immune system suffers from a progressive decrease in function that can lead to several negative situations including increased risk of infectious disease and ineffective response to vaccination. It's been shown that regular moderate cardiovascular exercise such as walking or cycling may offset some of the immune function decline in healthy older people. However most earlier studies tested the effect of exercise on immune function using in vitro measures of immunity, which aren't always predictive of in vivo responses. Furthermore many earlier studies depended on antigenic challenges that weren't novel to the subjects, which stimulated secondary or tertiary responses.

Colorado researchers use KLH for true primary immune response

Researchers at the University of Colorado (Boulder) wanted to test the popularly accepted notion that people who maintain a physically active lifestyle will enjoy the benefits a stronger immune system into older age. They designed a novel in vivo challenge to the immune system. To get clean, comprehensive results, they used KLH (keyhole limpet hemocyanin), a benign T cell-dependent protein isolate that has been used extensively with animals in the past, that also is safe for humans.

The study, entitled "Influence of age and physical activity on the primary in vivo antibody and T cell-mediated responses in men," appears in the August 2004 issue of the *Journal of Applied Physiology*, one of 14 peer-reviewed journals published by the American Physiological Society.

The investigative team was lead by Monika Fleshner and included Taro P. Smith and Sarah L. Kennedy, all from the Department of Integrative Physiology, University of Colorado (Boulder).



DePaul University Chicago, Illinois

Method and results

The researchers tested almost 50 healthy, young (20-35 years of age) and older (60-79) men, some physically active and some sedentary. Using KLH overcame a major problem in many earlier age vs. exercise studies which typically utilized in vitro tests or vaccine or recall antigens to elicit an immune response. In the first stage, all subjects were "immunized" with KLH with blood collected on day one and then each week for a month. The samples were comprehensively tested by ELISA (enzyme-linked immunoabsorbent assay) for anti-KLH IgM, IgG, IgG1 and IgG2.

The second phase was three weeks later. Subjects received an intradermal injection, or skin test, of KLH with inflammation measured each day for five days to assess anti-KLH delayed-type hypersensitivity response (DTH). There was significant reduction in all anti-KLH measures with aging except for anti-KLH IgG2. The physically active older group had significantly higher anti-KLH IgM, IgG, IgG1 and DTH but not IgG2 compared with the sedentary older group.

Experiment one found that the anti-KLH IgM and IgG titers were elevated three weeks after immunization, showing that the ELISA successfully detected KLH-specific Ig and that KLH immunization induced a primary antibody response. Moreover, the KLH skin test resulted in a DTH reaction that peaked after two days, persisting up to five days. Non-immunized subjects had no inflammation, showing that the DTH reaction was specific to KLH recognition.

Discussion and conclusion

The researchers said this was the "first study to clearly demonstrate in humans by use of a novel in vivo antigenic challenge that a physical active lifestyle is associated with preventing age-associated declines in the generation of a primary antigen-specific T cell-dependent antibody and DTH responses in aging humans."

The study found that there is an age-related decline in the primary antibody response to the novel antigen KLH as well as an age-related decline in the memory T cell response to KLH. The older physically active subject had an improved antibody and DTH response compared with older sedentary subjects that is equal to that of younger subjects. The changes in anti-KLH IgG production are primarily of the IgG1 isotype. This suggests that aging produces declines one specific T cell sub-type (Th1) that is essential for the generation of IgG1 in humans and that a physically active lifestyle in the older subjects selectively maintained the function of that specific T cell subset.

Importantly, antigen-driven responses, but not total antigen nonspecific Ig, were affected by age or exercise, suggesting this measure is truly reflecting alterations in the in vivo function of T and B-cells.

In conclusion they said the results provide in vivo evidence that physical activity is associated with maintaining a more optimal T cell-mediated response and that the DTH measure could have an important clinical implication because reductions in DTH is a predictor of mortality in the elderly and is a determinant of infectious disease risk. Furthermore, the researchers said "maintaining a physically active lifestyle improves health throughout the life span, but especially during times of immunocompromise, such as advancing age."

They noted that although most of the regular exercisers were runners, that the type of exercise didn't seem to matter.

Source and funding: The study, entitled "Influence of age and physical activity on the primary in vivo antibody and T cell-mediated responses in men," appears in the August 2004 issue of the *Journal of Applied Physiology*, one of 14 peer-reviewed journals published by the American Physiological Society.

This study was supported by National Institutes of Health (A148557 and 2M01-RR-00051 from the General Clinical Research Center Program of the National Center for Research Resources).

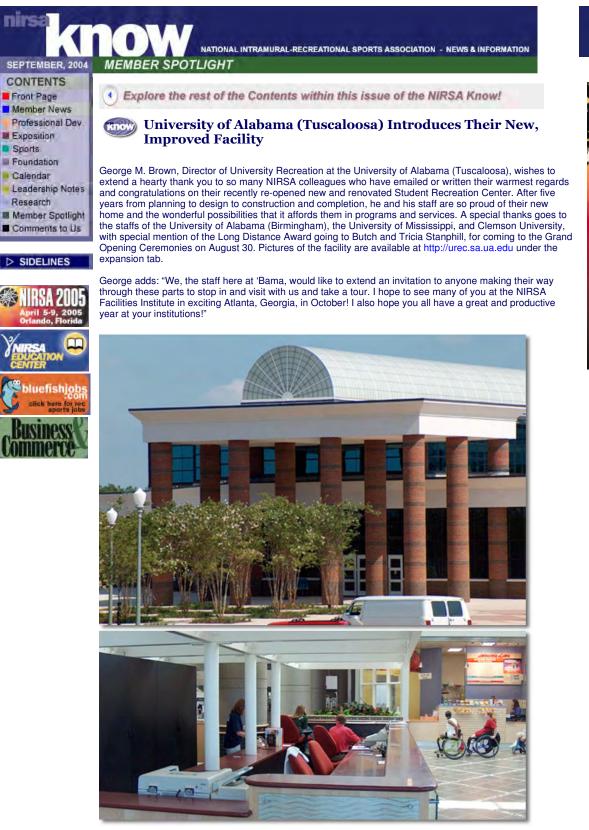
For more information, contact: Mayer Resnick at: mresnick@the-aps.org

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