



ENOUGH IS ENOUGH

Stop Teen Violence

The students in the HOSA Freedom Chapter at Reading-Muhlenberg Area Vocational School are implementing a community awareness campaign called “Enough is Enough, Stop Teen Violence.” The purpose of the program is to sensitize the community of the increasing numbers of teen violence incidents and to help reduce the degree of violence among young people in the City of Reading.

Wearing “Enough is Enough, Stop Teen Violence” T-shirts they designed themselves, the students in the HOSA Freedom Chapter are providing verbal and written information to youths and adults regarding the impact of teen violence. The students prepared brochures and posters in English and Spanish and are distributing these fine materials in community centers located throughout the City of Reading. Using statistics, skits and a question-answer format, the students are teaching conflict-resolution skills to youngsters who are likely to come face to face with violence.

In addition to the work in the community, the HOSA Freedom Chapter will present a mini-play at Reading-Muhlenberg AVTS, which will display the ramifications of teen violence and teach young teens how to maintain self-control and not resort to violence but to resolve conflicts. Video clips and documentation of the increasing number of violent incidents among the teenagers will also be displayed during their performance.



Background Information and Statement of the Problem

Young violence is a National Health Problem. Violence among teenagers is increasing. From 1990-1999, nearly 34,000 people ages 18 and younger were victims of homicide. Nonfatal violence is also on the rise. The rates of rape, sexual assault, robbery and aggravated assault are higher among people under age 25 than any other age groups.

(Department of Health and Human Services, 2002)



Raising Student Leaders

by Mike Glover, CAVIT HOSA Advisor

Are leaders made or born? I believe that leaders are made and the leadership opportunities provided through HOSA can provide young people with valuable life-long skills to guarantee success!

Developing HOSA student officers into dynamic leaders is not an easy task. It requires dedication, a quality program, high standards within the chapter and most importantly, it requires self-motivation from the chapter officer team. Working with your officer team to take the lead in providing quality instruction to students can be the biggest motivator for all of your HOSA membership.

When CAVIT's Arizona chapter came on board with HOSA last year, the goal was to develop a monthly student professional development program that would offer students a variety of opportunities to participate in new and innovative leadership training. We wanted our officers to develop a monthly event that would give HOSA students a working knowledge of leadership, including group dynamics, diversity, ethics and team building traits. This year, we have set a goal to make our monthly program better than the year before.

By training CAVIT officers to lead training activities at meetings, students have been exposed to progressive leadership training programs that taught the topics needed to be valuable health care workers. Officers presented programs such as Who Moved My Cheese?, FISH! Philosophy and A Peacock in the Land of Penguins. These commercially available programs teach students how to adjust to change, create positive attitudes and to appreciate the diversity among others. Officers lead sessions by participating in engaging activities such as role play and group discussions.

We don't expect students to know how to lead when they begin CAVIT classes and we know that leadership does not just happen overnight. It is the result of hard work, training and dedication to improving the HOSA chapter. Using officer teams as an instructional tool can bring HOSA chapter members pride in raising future health care leaders.

CAVIT officers provided a Who Moved My Cheese? skit, a lesson on change and led discussions.



HOSA Week Activities at East Haven High School

by Sean Connelly

Recently students of East Haven High School's HOSA club organized a free blood pressure screening clinic. The free clinic exercised the student's abilities to take blood pressure on patients as if they were in a real working environment. The clinic was offered over the course of two days to anyone within East Haven High School who wished to have his or her blood pressure tested. Because of East Haven High School's vast student and faculty population, this gave students the opportunity to work with patients that they have never met before, such as they would in a hospital or medical facility. In preparation to the clinic, students posted instructional posters across the school to raise awareness and to attract patients.

Over the course of the two days many attended the clinic including teachers, students, principals, and even security guards. Ninety seven blood pressures were taken in all. After a patient's blood pressure was taken, wallet sized cards were given to them with their blood pressure on it. Also found on the card were various facts and statistics regarding the various levels of blood pressure. This information was explained to each patient broadening their knowledge of how important getting their blood pressure checked is.

As a member of HOSA, I was given the firsthand experience of being able to participate in this clinic. I feel it gave us a very accurate showing of what it is like to work in a medical environment. For me personally, I found that you truly feel like you are helping people like you would in any medical career. Even though we were participating in such a simple task such as taking and recording a patient's blood pressure, we were still spreading awareness to many people across the school. The knowledge that was passed on through this clinic has influenced many people to the dangers of high blood pressure. Overall, I feel that the clinic was a very beneficial project for both the students who participated and those who were tested.

Student officers from East Haven High School, Warren Harding High School, Hill Regional Career High School and Central High School attend a workshop on Re-Sharpening your Interpersonal Skills at the Fall Leadership Conference on December 11, 2006. The workshop was facilitated by Mark Schnieder and Bob Dickson from the Dale Carnegie Training of Western Connecticut.





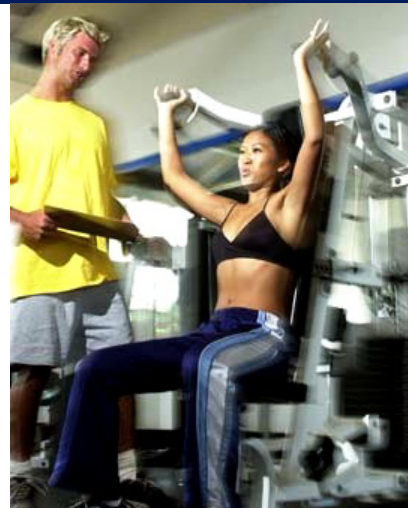
National Athletic Trainers' Association

The Athletic Trainer

*By Josh Thompson
Secondary Board Representative*

The athletic trainer is a career that I am sure you know about but may never have considered a health profession: the athletic trainer. These professionals provide an invaluable service to many different people, not just the athletes. It is their job to help prevent, assess, treat and rehabilitate a wide variety of injuries in multiple settings. Because their role in assisting injured athletes in getting back on the field as soon as possible is so well known, this article is going to focus on the little considered side of their work in corporations.

Busy employees facing massive amounts of pressing work do not have time to be worrying about injuries they may obtain during the course of their everyday lives or on the job, but for someone like a manufacturing line operator, an injury to severely effect their productivity. This is where the certified athletic trainer comes in. Through supervising and educating employees about injury prevention and properly treating new injuries, an athletic trainer can greatly reduce the downtime of an effected worker.



Companies with high volumes of worker's compensations claims can actually save huge amounts of money by hiring a trainer to keep their workers healthy. According to the National Athletic Trainers' Association, fifty percent (50%) of companies that hire a certified trainer decrease the number of injury by at least half. This can result in cutting some big losses that would have resulted from these prevented injuries.

Certified athletic trainers can also be seen working at schools, universities, private clinics, and hospitals, as well as for performing arts groups and the military. Anywhere that a motion-related injury can occur or where such an injury would affect performance of an individual is a potential job opportunity.

In order to become a certified or licensed athletic trainer, you must have at least a bachelor's degree. The majority of trainers, seventy percent (70%), also have a master's degree or doctorate. After receiving your degree, you must then mass a national certification examination covering prevention, diagnosis, immediate care, treatment, rehabilitation, administration, and professional development. After this, you must maintain medical-related continuing education in order to maintain your certification. Most states also require you to be licensed in order to practice.

So the next time you see a trainer at one of your school's games, go up and talk to them about what they do. You might be surprised at what you learn.





“The Best Prescription is **KNOWLEDGE”**

Former Surgeon General Gives Inspiring Lecture in Health Science and Technology Class

*Submitted by Dana Stetson
Sugar River Valley Technical Center
Newport, NH*

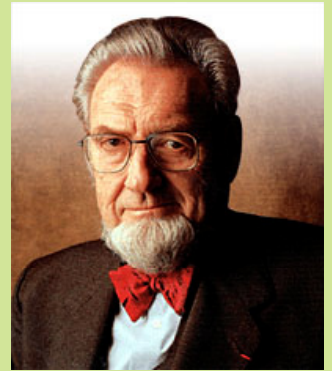
Say the name **C. Everett Koop** in a classroom full of high school students and the majority of them, if not all of them, will give you blank and bored looks. Mention this man's name in a room full of adults, however, and you'll immediately find yourself hearing conversations about AIDS, obesity, conjoined twins, the tobacco industry, abortion, and any other hot ethical topic that plagues today's newsstands and televisions. Dr. C. Everett Koop is the former Surgeon General of the United States of America. It's an impressive title but the man is far more fascinating than the label. And even though he's been retired from office for over seventeen years, he's still as controversial as ever.

And why are we mentioning Dr. Koop? Newport had him as a guest speaker. On November 7, 2006, the man and legend graciously made an appearance at Newport Middle High School to speak with Mrs. Wilkie's Health program to an audience of roughly sixty people.

Dr. Koop is no spring chicken. He's seen more than most people in his 90 years. When he entered our classroom, he walked slowly and with caution using a dark wooden cane with an elephant head as a handle for support. Later, he told us that he got it because the extended trunk of the elephant provided a good hold of support. However after purchasing it, he realized that the figurehead might look subconsciously like he was taking a political side. The former surgeon general wore a dark blue suit and his signature red, white, and blue medical signa bowtie. This man looked as if he had seen the world twice over and even fought with it a few times which he certainly has.

In a forty-five minute lecture, Dr. Koop answered questions previously presented to him by the students on topics including AIDS, obesity, stem cell research, and abortion. To give an example of how foreword and bold he was about his views and beliefs on these topics, he said that if he picked any topic and chose to discuss it, chances were that the room would divide right before his eyes. He promoted sticking to your ethics and living up to them fully, as he did when faced with disobeying his government and country and sending out the notorious pamphlet about AIDS against the will of Congress. "Situations alter," he told the room in a deep voice, "but ethics never change."

"I took an oath to protect the American people and inform them of disease," he said and even though his two terms as Surgeon General ended in 1989, he continues to inform and protect the American people the best he can to this day.



Dr. C. Everett Koop

*“I took an oath
to protect the
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— Dr. C. Everett Koop



HOSA Skill Events in the Comprehensive Health Science Classroom

HOSA Category II events or "Skill Events" are an important part of the National HOSA Competitive Events program. HOSA Skill events:

- Set HOSA apart from other CTSOs
- Provide an opportunity for career immersion
- Clearly represent the health professions

HOSA advisors can take a different approach to HOSA Skill Events. For some, these events are an opportunity to showcase what is being taught in the classroom. A HOSA advisor who teaches in a Medical Laboratory program may encourage his/her students to compete in Medical Laboratory Assisting. Another instructor in a nursing program may require all HOSA members to compete in Nursing Assisting to help prepare them for the CNA competency assessment.

Some advisors believe that Category II skill events are ONLY for HOSA members who are senior-level or postsecondary/collegiate students in a specific skill course. They're right!

Other advisors believe that Category II skill events are for ALL students, at any level, who wish to explore a specific health career cluster. They're right too! If done correctly, HOSA Category II events can provide excellent opportunities for ALL HOSA members.

Skill Events in a Comprehensive Classroom

Many HOSA advisors teach in comprehensive secondary programs. They may teach 9th, 10th and 11th grade students, in addition to high school seniors. The career goal of students in their program can be just about any health career.

These HOSA advisors use the Category II Skill Events as an opportunity for students to immerse themselves in a specific health career, in an effort to learn about the chosen health career.

The key to success in using skill events for HOSA members in a non-skill specific program is to understand two important concepts:

1. The HOSA member MUST master all the skills in the chosen event.
2. The best person to teach the HOSA member is a health professional with expertise in the career specific skills in the event guidelines.



Here's how it works.

Ruben is a junior in Mrs. Garcia's Health Science I class and an active member of HOSA. His career goal is to be a Veterinarian.

Mrs. Garcia encourages Ruben to prepare to compete in the HOSA Veterinary Assisting event. She contacts a Veterinarian on her advisory committee, who agrees to allow Ruben to volunteer in the veterinary clinic. For the next three months, Ruben goes to the veterinary clinic on Saturdays and learns all the skills in the HOSA event guidelines. Both the Veterinary Technologists and Veterinarian help him practice his skills. Mrs. Garcia loans him a copy of Introduction to Veterinary Science and Clinical Textbook for Veterinary Technicians to study for the written exam.



Before the state conference registration deadline, Mrs. Garcia talks with the Veterinarian, who assures her that Ruben has mastered all the skills in the HOSA Veterinary Assisting event.

Ruben competes in the Veterinary Assisting event at his HOSA State Leadership Conference and places 1st in the event. Next stop – the HOSA National Leadership Conference!

What's right about this picture?

Ruben had an opportunity to master the skills in the HOSA Veterinary Assisting event, and his chapter advisor assured that he was competent to compete. Even if he hadn't placed in the event, he still would have had three months of intensive job shadowing in a possible future career.

The Key to Success

The goal with HOSA skill events is competence to perform. This requires that the HOSA member master all the skills in the event. It is less important who teaches the skills to the HOSA member, and MOST important that the HOSA member is competent to perform all the skills in the event.

There is a 70% rule in HOSA skill events. The rule requires that HOSA members perform the skills at a 70% level or higher in skill events (excluding the test) in order to be recognized as an event finalist or winner in national competition. HOSA advisors are well advised to implement the same standards in their classrooms .

HOSA skill events provide an outstanding opportunity for HOSA members. Done correctly, these events provide all HOSA members with an unsurpassed opportunity for career exploration and skill development.



Health is Inevitable

By: Carlos Salazar
Postsecondary/Collegiate Vice President



Health is a mysterious declaration that people commonly use to determine if they are ill or well, but in modern society we do not measure wellness as a state of being but a postponement to sickness. When identifying what has occurred around the country in health this year, statements such as “unhealthy” or “can be terminal to your health” were used repeatedly. We are accustomed to hearing that cancer might be caused by the use of certain equipment or products. Some common sayings are “drinking diet soda can cause cancer.” The reality is the air we breathe, the car we drive, the water we drink or the food we eat has a higher risk of killing us than many of the cancerous products that we are told are potentially deadly. Cancer remains the leading killer among men and women in the country -- breast cancer for women and prostate cancer for men.



Children’s Health:

- Cerebral Palsy: a degenerative disease that affects the muscles and brain tissues of the body stiffening and distorting the body of its victims.
- Autism: a rising disease that primarily affects children affecting their cognitive ability to think complexly and increasing anxiety and frustration due to the torment that this disease causes its victim, and finally learning impairments which affect millions nationwide ranging from speech to physical impairments disabling its victim from maintaining a high level of ability in their area of impairment. These diseases affect millions of our youth every year. All are treatable but no cure is available at this point.
- Sudden Infant Death Syndrome (SIDS), and cancer (primarily Leukemia) are two of the most deadly diseases that combined claim more than 35% of all the deaths of youth under 9 years of age.
- The killer that is not discussed much but is the most deadly for children is water. That’s right! Drowning is the number one killer of children!
- Two of the most common substances that are available to teenagers and young adults throughout the country are alcohol and cigarettes. Needless to say, these substances are masked murderers that affect the lives of millions. Those of you who believe that marijuana is not dangerous, you are wrong! Marijuana can and will affect your brain causing serious damage that is irreparable.



Always remember, HEALTH is the most important thing that we have!



Zeecraft Tech Redesigns Showtime Handgrip Buzzer to Better Meet Customer Needs

New Woodstock, NY —Zeecraft Tech announced that it has recently redesigned its best selling Showtime Handgrip Buzzers with a new ergo dynamic look--a teardrop design that concentrates light-- and a new lens that enables players to see the buzzer light from behind as well as the front. Additionally, the design makes the buzzers even more reliable because they cannot easily tip over. The price of the redesigned Showtime Handgrip Buzzer has not increased.

Features of the New Showtime Handgrip Buzzer include:

- Better viewing angle
- Showtime Buzzers can be used with any Buzzer Box System
- Set consists of tabletop light unit with red and white lights for team identification. Other colors are available.
- The entire light plate illuminates when a contestant buzzes in
- All buzzers come with 14' cords (extension cords available)
- Extension cords available for tier and special set-ups.
- Modular, trouble-free connectors.
- High-visibility light system
- Easy connection for any age to set up

"We are very focused on meeting customer needs and pay close attention to what our customers request and suggest about our products. We think the redesign of our Showtime Handgrip Buzzer makes it truly the best product of its type," said Pete Hausser, Owner of Zeecraft.

Zeecraft Tech has been a leading manufacturer of quality Quizbowl equipment and accessories since 1975. Zeecraft products are ideal for learning and performance improvement at all levels, inside and outside the classroom. Zeecraft products are used in a variety of activities including corporate events, parties, in the classroom, in extracurricular activities, and in formal academic competition throughout the country. Zeecraft systems are affordable, durable, and portable. Zeecraft products enable players to learn in an enjoyable, non-stressful way. Zeecraft's Quizbowl equipment includes buzzers, scoreboard, timers, electronic message boards, and lockout systems.

The company's new address (effective September 2006) is 2515 Tucker Road, New Woodstock, NY 13122. The toll free telephone number and company web site remain the same: 800-662-7475 and www.zeecraft.com.

Contact Information:

Gail McGrew
McGrew Marketing
201-240-0070
gail@mcgrewmarketing.com

Pete Hausser
Zeecraft Tech
800-662-7475
www.zeecraft.com



Dementia

Dementia is a progressive brain dysfunction that leads to a gradually increasing restriction of daily activities. The most well know type of dementia is Alzheimer's disease. The causes of dementia include various diseases and infections, strokes, head injuries, drugs, and nutritional deficiencies. All dementias reflect dysfunction in the cerebral cortex, or brain tissue. When the cortical tissue is not damaged the dementia may sometimes be stopped or reversed. The damage of brain cells in both cortical and subcortical areas then treatment is used to slow the progress of the condition or to



relieve the symptoms. Medical care should focus on optimizing the individual's health and quality of life while helping family members cope with the many challenges of caring for a loved one with dementia. Medical care depends on the underlying condition, but it most often consists of medications and non drug treatments such as behavioral therapy.

The National Service Project for 2004-06 was with the Alzheimer's Association. For additional information and ways that you can help, please go to their web site at <http://www.alz.org>.

alzheimer's  association®



Dental Assistants Name

KIMBERLY BLAND *President-Elect*

(Chicago: August 2006) BRADENTON

ADAA is one of HOSA's Sponsors and we congratulate Kimberly Bland, Dental Assisting Program Director and HOSA Advisor at Manatee Technical Institute East Campus in Bradenton, Florida, for this honor!

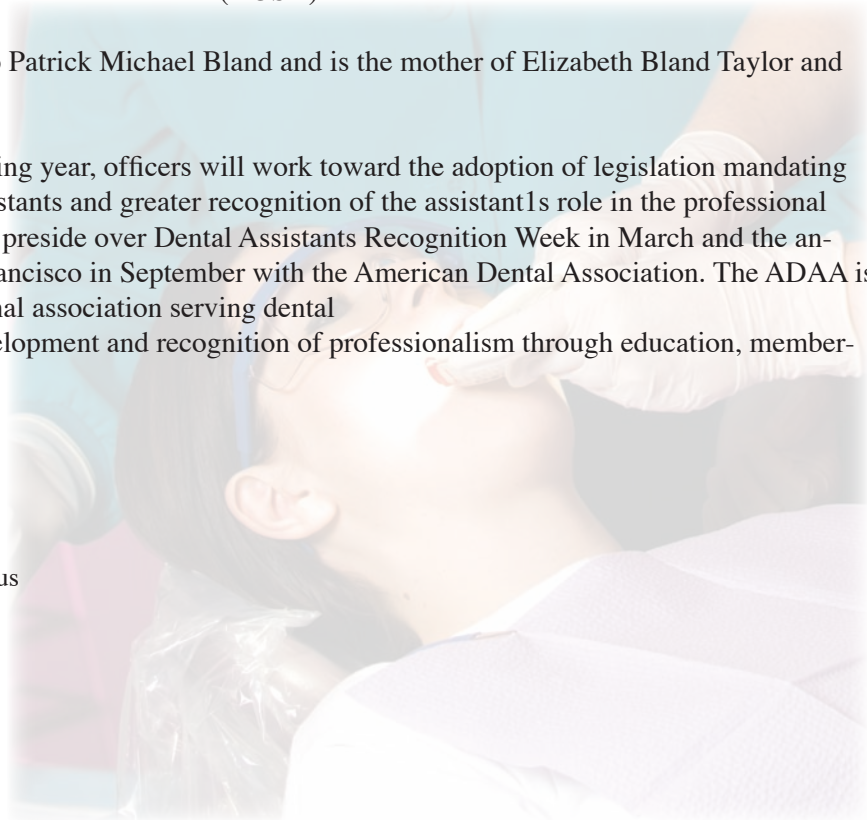
Resident Kimberly G. Bland, a certified dental assistant and dental assisting program director at the Manatee Technical Institute, Bradenton, has been voted President-Elect of the American Dental Assistants Association. The 15,000 member national organization met in Denver and elected Ms. Bland, who will assume office in September, 2007.

Ms. Bland has served as ADAA's Fifth District Trustee and as both national Secretary and national Vice President. She has held several offices in both the local and state ADAA organizations, having been President of the Florida Dental Assistants Association for three terms and is past president of the Sara-Mana Dental Assistants Society of Florida. Ms. Bland is a member of the Florida Board of Dentistry Dental Assisting Council and has held offices in the Florida Allied Dental Educators Association and as Florida Region V Postsecondary Advisor of the Florida Health Occupation Students of America (HOSA).

In her personal life she is married to Patrick Michael Bland and is the mother of Elizabeth Bland Taylor and Kenneth P. Bland.

As leaders of the ADAA in the coming year, officers will work toward the adoption of legislation mandating credentialing for clinical dental assistants and greater recognition of the assistant's role in the professional dental team. During 2007, they will preside over Dental Assistants Recognition Week in March and the annual, national Conference in San Francisco in September with the American Dental Association. The ADAA is America's oldest, largest professional association serving dental assistants. It is dedicated to the development and recognition of professionalism through education, membership services and public relations programs.

Kimberly Bland, CDA, B.S.
Dental Assisting Program Director
Manatee Technical Institute East Campus
5520 Lakewood Ranch Boulevard
Bradenton, FL 34211
941-752-8100 ext 210
fax 941-727-6254
blandk@manateeschools.net





National Youth Leadership Forum

Early in 2007 the National Youth Leadership Forum on Medicine (NYLF/MED) will begin to look for **candidates to work during the summer months**, generally from June-July. I am very interested in making this opportunity known to the members of HOSA. Please let me know how best to proceed. I have included information on NYLF/MED below.

Two positions we will be seeking to fill include:

Faculty Advisor:

- In this role you facilitate a Medical Education Discussion (MED) session consisting of 20-25 high school honor students
- MED sessions consist of simulations and group discussion
- You are considered a full-time, temporary employee for NYLF/MED from the middle of June to the end of July
- Compensation varies by city

Operator:

- In this role you provide conference assistance, including: going to sites before students arrive, assisting with departure/arrival of students and preparing group meeting rooms with supplies
- You are considered a full-time, temporary employee for NYLF/MED from the middle of June to the end of July
- Compensation varies by city

Since NYLF/MED is held in 9 Forums, we will have many faculty advisor and operator positions available, in addition to other roles.

The National Youth Leadership Forum on Medicine (NYLF/MED) is an extraordinary 10-day program offering an intense and stimulating exploration of the field of medicine. Held each summer at renowned medical centers in Atlanta, Boston, Chicago, Houston-Galveston, Los Angeles, Phoenix-Tucson, Philadelphia, San Francisco and Washington, D.C., it is the Nation's foremost program in pre-medical education for high school students. First held in 1993, NYLF/MED gives participants a sense of the academic preparation necessary for a career in medicine. Students also develop skills in clinical decision-making, learn to differentiate between basic stages of research and develop an appreciation for the social, financial and emotional responsibilities of practicing medicine. NYLF's hands-on interactive curriculum is designed so that site visits, speaker topics and simulation exercises complement each other for a truly integrated and meaningful educational experience.

For more information on NYLF/MED, please visit www.nylf.org/med.

Ray Wright, Ed.M., Deputy Director
National Youth Leadership Forum on Medicine
1919 Gallows Road, Suite 700
Vienna, VA 22182
Phone: 703-584-9432

The National Youth Leadership Forum on Medicine (NYLF/MED) is an extraordinary 10-day program offering an intense and stimulating exploration of the field of medicine.



KY Tech Student Spotlight

Meet Emily Kate Cardwell

By: Fran Dundon
Kentucky Office of Career and Technical Education

Emily-Kate is a junior at Ohio Co. HS and a health sciences student under the direction of Instructor Carla Wallace at the Ohio Co. ATC in Hartford, KY. She has been an honor roll student since her freshman year.

Emily-Kate is a member of the Ohio Co. ATC HOSA (Health Occupations Students of America) Chapter. During the 05-06 school year, she served as vice president of her local club and currently serves as the 06-07 local Co-President and KY HOSA State Historian.

"I've had leadership training at both the state and national conferences. The officer training that we received from both has been excellent," says Emily-Kate. "At state leadership training, we interact with state officers from different organizations such as FFA, DECA, FBLA, and VICA. The training helped me to develop better public relations and presentation skills as well as social etiquette and rules of order during a meeting. Next year, I hope to run for president because I'm the youngest state HOSA officer."

During her freshman year, she placed 1st in Knowledge – Concepts of Health Care at the state conference and 4th place in national competition.

"Emily-Kate is a conscientious student and always puts forth her best effort," says Ohio Co. ATC Health Sciences Instructor Carla Wallace. "She is an outstanding young lady who will accomplish many goals in life because of her enthusiasm, dedication, and hard work."

"Mrs. Wallace understands our problems, but she has high expectations of our performance," says Emily-Kate. "I started taking health sciences during my freshman year. It's because of Mrs. Wallace and HOSA that I plan to go into the medical field. Mrs. Wallace expects us to respect her and respect ourselves. She has taught me to work hard, set the bar high for my goals and perform to those goals."

Emily-Kate is the daughter of Bruce and Kathy Cardwell. Her hobbies include tennis and golf. She is a member of the Student Council, Pep Club, Girls in Science program and is actively involved in her church youth group.



Meet Jena Beth Garner

By: Fran Dundon
Kentucky Office of Career and Technical Education



Jena Beth is a senior at Ohio Co. HS and a health sciences student under the direction of Instructor Carla Wallace at the Ohio Co. ATC in Hartford, KY. She has been an honor roll student since she was in middle school.

Jena has been a member of the Ohio Co. ATC HOSA (Health Occupations Students of America) Chapter for three years. During the 05-06 school year, Jena served as secretary of her local club and currently serves as the 06-07 local Co-President and KY HOSA State Treasurer.

"I wanted to run for president of our local club this year because I've always been a leader and thought this position would be a great opportunity to develop a better HOSA program at my school," says Jena. "My plans are to be a pediatrician; so, being in health sciences and holding several officer positions will help me in getting a scholarship, develop leadership skills and to be ahead of the education game as I get ready to enter college."

"Jena has the type of determination that will help her to succeed in life," says Ohio Co. ATC Health Sciences

Instructor Carla Wallace. "I am proud of her efforts in the classroom and how she represents Ohio Co. ATC at the state level in HOSA. She is an asset to our school."

"Mrs. Wallace is like my mom away from home. She takes care of us and makes sure that we have everything we need. She loves us and I don't know what I would do without her," says Garner. "Don't get me wrong – she makes us work too and I appreciate that she cares about our education. But, what I have learned most from her is that life is important and saving a life is why I'm here. She is the person that got me interested in what I'm going to do with the rest of my life."

During national HOSA, Wallace took her students to visit UCLA and now Jena wants to study medicine there.

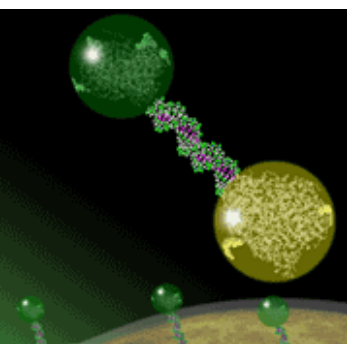
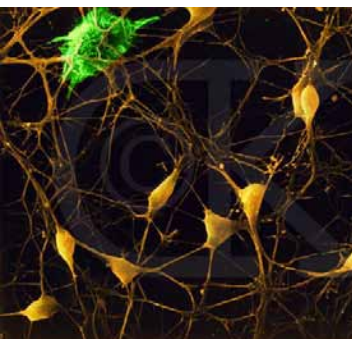
Jena is the daughter of Maria and Marvin Tomblinson. Her hobbies include cheerleading, snowboarding, skateboarding, and cleaning her new 2006 Mustang GT. She loves to play guitar and appreciates all types of music.



Biophysicist

*By Josh Thompson
Secondary Board Representative*

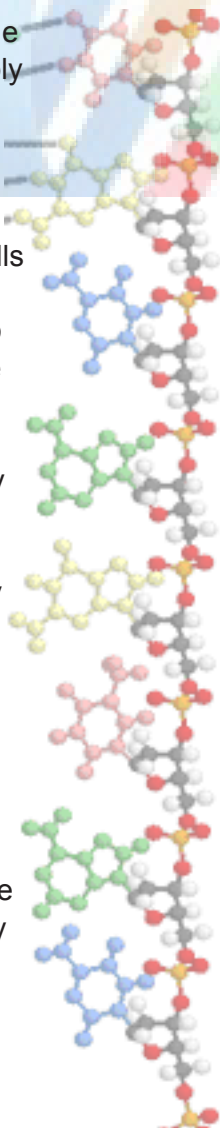
Although you may not have heard of the relatively new field of science called Biophysics, it has already done much to influence your life. Biophysics applies the principles of physics to biology, using physical sciences to better understand the structure and function of living cells and organisms. Principles of physics that few would connect with the fields of biology and medicine are the specialty of the biophysicist, and their work can encompass things that few would include under a single career field. For example, every thought that you have and every sensation you feel involves the creation of electrical impulses sent through your brain and nervous system. A biophysicist explores how and why this happens and what effects it creates. They get to research some of the smallest organic molecules through x-rays and electron microscopes and apply properties of physics, including quantum mechanics, to cells, tissues, organs, and entire body systems.



If you are wondering how practical this work is, consider this: on the cellular level, biophysicists investigate how molecular particles are changed within cells and how forces such as radiation and x-rays affect cells. Biophysics has also given us a better understanding of the physical forces and stresses applied to our bodies. Just how much stress is applied to our bones and muscles as we go through our daily routines?

The educational requirements to become a biophysicist are varied and largely depend on your interests. If you are an interested high school student, start planning now to take plenty of biology, chemistry, mathematics, and physics courses. After high school, you have to obtain a bachelor's degree, preferably in one of the majors listed above. If you are interested in applied research, in which you would work towards solving a known problem or developing new products, then a master's degree is your next step before entering the career field. For those of you who are really ambitious and want to conduct your own research or seek an administrative position, you can look forward to obtaining a Ph.D.

Biophysics is an up-and-coming field of science that is projected to grow in the coming years. If you think you have what it takes to become a biophysicist, try to find a laboratory in your area and get to work as an intern!





INNOVATIVE HEALTH MAJORS at Georgetown University in Washington, DC

Whether you are interested in the policy, science, international, or clinical aspect of health, Georgetown University has a program for you. The School of Nursing & Health Studies (NHS) prepares students for countless career opportunities in the healthcare industry and in true Georgetown tradition produces leaders for the future. The four Bachelors of Science degree programs offered in NHS are:

- Healthcare Management and Policy (HMP)
- Human Science (HS)
- International Health (IH)
- Nursing (BSN)

Students within NHS are able to go abroad, minor in other subject areas, and/or complete the pre-med requirements.

The HMP program is designed for students preparing for careers in the organization and management of health systems. This program provides a unique opportunity for students interested in business and health; students will get a foundation in business (accounting, economics, etc.) while also learning the ins and outs of the American healthcare system, with a focus on quality of care issues.

The HS program is designed for students who desire to study the application of scientific discoveries to human health. Courses include human biology, chemistry, genetics, immunology, biotechnology, and microbiology. Students will be prepared to pursue biomedical research, teaching, pharmaceutical marketing and sales or graduate study including public health, physical therapy, dentistry, and medicine.

The IH program blends public health and health systems management with an emphasis on how environment, culture, economics, and politics are all key factors in improving the health status of whole populations. This program includes a series of three internships: community-based, abroad, and within an international organization.

The BSN program gives students an outstanding education in the biological, physical, and social sciences needed for their nursing career. Georgetown BSN students begin their clinical and practical coursework with patient contact in their first year of study.

For those students interested in research, Georgetown provides undergraduates with unique research opportunities. In January, NHS finished construction of a new, state-of-the-art teaching laboratory and research facility—the Discovery Center. The Discovery Center includes a teaching lab and a faculty research lab with space for six faculty and twelve students to work side by side on various research projects.

And because of our location, Georgetown students have held internships at National Institutes of Health, National Academy of Sciences, Pan American Health Organization, World Bank, Inter-American Development Bank, Congressional and other U.S. Government Offices and Agencies and many of the other 200-plus health science, medical and healthcare agencies and organizations in the Washington, D.C. area.

To learn more about the NHS programs, please visit: <http://nhs.georgetown.edu> or feel free to call us (202) 687-8439.

Georgetown University in Washington, DC invites you to explore innovative health-related majors.

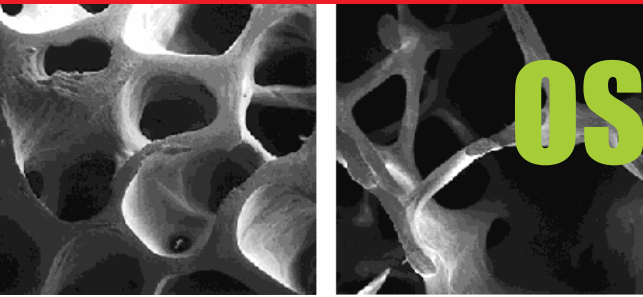
If you're interested in careers related to...

Physical Therapy, Medicine, Public Health, Healthcare Consulting, Nursing, Clinical Research, Dentistry, Healthcare Law, Forensic Science

...than you may be interested in one of the following majors:

- Healthcare Management and Policy
- Human Science
- International Health
- Nursing

Please visit our website for more information <http://nhs.georgetown.edu> or call email nhsadmissions@georgetown.edu.



OSTEOGENESIS Imperfecta

By Ashley Moree
Postsecondary Collegiate Board Representative

In the United States there are 50,000 people diagnosed with Osteogenesis Imperfecta (OI).

Osteogenesis Imperfecta is a genetic disorder caused by bones that break easily. There are four different recognized levels of severity. Some individuals may have only a few fractures in a lifetime where others may have several hundred. OI affects the body's production of type 1 collagen. The collagen may be lacking or a poorer quality than normal. The four types of OI are:

Type I

- Most common and mildest type of OI.
- Bones fracture easily. Most fractures occur before puberty.
- Normal or near-normal stature.
- Loose joints and muscle weakness.
- Sclera (whites of the eyes) usually have a blue, purple, or gray tint.
- Triangular face.
- Tendency toward spinal curvature.
- Bone deformity absent or minimal.
- Brittle teeth possible.
- Hearing loss possible, often beginning in early 20s or 30s.
- Collagen structure is normal, but the amount is less than normal.

Type II

- Most severe form.
- Frequently lethal at or shortly after birth, often due to respiratory problems.
- Numerous fractures and severe bone deformity.
- Small stature with underdeveloped lungs.
- Collagen improperly formed.

Type III

- Bones fracture easily. Fractures often present at birth, and x-rays may reveal healed fractures that occurred before birth.
- Short stature.
- Sclera have a blue, purple, or gray tint.
- Loose joints and poor muscle development in arms and legs.
- Barrel-shaped rib cage.
- Triangular face.
- Spinal curvature.
- Respiratory problems possible.
- Bone deformity, often severe.
- Brittle teeth possible.
- Hearing loss possible.
- Collagen improperly formed.

Type IV

- Between Type I and Type III in severity.
- Bones fracture easily. Most fractures occur before puberty.
- Shorter than average stature.
- Sclera are white or near-white (i.e. normal in color).
- Mild to moderate bone deformity.
- Tendency toward spinal curvature.
- Barrel-shaped rib cage.
- Triangular face.
- Brittle teeth possible.
- Hearing loss possible.
- Collagen improperly formed.

There is no cure for OI at this point in time. The treatment for those affected is to prevent or control the symptoms, maximize independent mobility, and to develop optimal bone mass and muscle strength. Those with OI are commonly treated for fractures, undergo dental procedures, and are recommended for physical therapy.

In maximizing independent mobility, wheel chairs, braces and other assistive devices are utilized. Some individuals must undergo a surgical procedure called "rodding" where metal rods are inserted to run the length of long bones. OI patients are encouraged to exercise to promote muscle and bone strength as well as utilizing aquatic therapy. Swimming allows those with OI to move about freely with little risk for fracture. Most importantly, those with OI should maintain a healthy diet and avoid caffeine, smoking, and alcohol all of which deplete bone and cause an increase in bone fragility. Individuals diagnosed with OI tend to lead successful lives. The prognosis varies depending on the severity. For more information on Osteogenesis Imperfecta, please visit the OI Foundation website at www.oif.org.

Most importantly, those with OI should maintain a healthy diet and avoid caffeine, smoking, and alcohol all of which deplete bone and cause an increase in bone fragility.

