Trauma Care Saves Teen’s Life

November 4, 2004

The accident happened less than three miles from home.

Sixteen-year-old Shannon Johns was almost back to her family’s 144-acre farm in Wagener when she hit a curve going too fast. The teenager’s haste to get home in time, rainy driving conditions, and slick roads made a dangerous combination. “I remember holding on tight to the steering wheel and praying to God,” she recalled as she lost control of the vehicle.

Unrestrained in her prized red Camaro, Shannon was ejected from the car, which flipped a number of times on the Aiken County highway. A passerby summoned 911, and the teenager was transported by helicopter to Palmetto Health Richland. When her parents arrived at the hospital, they found out that the news wasn’t good. Dr. Raymond Bynoe, a trauma surgeon and an associate professor of surgery, met with the family.

“He told us that her condition was critical and that she had to go to the OR immediately,” her mother, Angie, said. And while Dr. Bynoe hopes their educational efforts will steer some teens away from making bad choices, the reality is that trauma will never be eliminated. “I look at what we do the same way as the ambulance and fire and police services. You never want to see us, but when you need us, you want us to be available,” he said. The Johns family was certainly grateful those trauma services were available on a rainy November night in 2004. “Their was an example of a family’s worst nightmare,” Dr. Bynoe said. “Yet it didn’t end as a nightmare.”

Blinded by the possibility of her survival, the teenager who no longer observed the car, which flipped a number of times on the Aiken County highway. A passerby summoned 911, and the teenager was transported by helicopter to Palmetto Health Richland. When her parents arrived at the hospital, they found out that the news wasn’t good. Dr. Raymond Bynoe, a trauma surgeon and an associate professor of surgery, met with the family.

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Shannon had suffered extensive internal abdominal injuries, thoracic injuries and a closed head traumatic brain injury from the accident. “She didn’t look like Shannon when we first saw her. She had started swelling, she had blood on her face and arms, and all kinds of medical stuff everywhere,” her mother recalled.

As surgeons addressed Shannon’s multiple injuries in the operating room, they needed to remove her spleen, which had ruptured. “There was so much fluid that we could not close her abdomen,” Dr. Bynoe said. Angie and her husband, Curt, remem-

**TEENS WITH CANCER SHARE LASTING IMPRESSIONS**

Snap a digital photo to capture a typical teenager. Would it be taken at a pep rally or on a part-time job? How about in a French class or at a football game?

It certainly wouldn’t show a 16-year-old in a hospital bed. Yet introduce a cancer diagnosis in a young person’s life and the picture changes dramatically. Suddenely diagnostic procedures, treatments and medical appointments overshadow the every-day routine of study, science hall and soccer practice.

“One of the biggest factors in dealing with cancer as a teenager is the sense of being different. They are in a phase of life when they want to fit in,” said Julian Ruffin, Ph.D., a clinical associate professor of pediatrics and Coordinator of Psychosocial Programs for the Children’s Center for Cancer and Blood Disorders at Palmetto Health Richland. Isolation is another difficult pill to swallow. “Duration of the treatment is dramatically. Suddenly diagnostic procedures, treatments and medical appointments overshadow the every-day routine of science, study hall and soccer practice.”

Yet teenagers in the Midlands and throughout South Carolina don’t have to go it alone, thanks to a program provided through the Division of Pediatric Hematology and Oncology and the Children’s Center for Cancer and Blood Disorders. Named Lasting Impressions by the initial group of teenagers in 1986, the program addresses the unique needs of these patients and their parents.

Monthly support group meetings (separate sessions for teens and parents) are held to coincide with a Thursday clinic day when many teens are scheduled for medical appointments. Teenagers can also attend quarterly retreats and participate in projects like the Teen Link newsletter and a memory book that chronicles various activities. As the Lasting Impressions members enjoy a ski trip, a weekend at a ranch and sailing in the Chesapeake Bay, Dr. Ruffin notes, “it’s not where we have gone, but what happens while we are there.”

What happens is that teens open up to each other, sharing a gamut of feelings about the disease that has invaded their lives. Strong, supportive bonds form. “I’ve often heard teens say, ‘It’s hard for me to relate even to my good friends. With this group I don’t have to explain about my blood count or my treatment,’” said Dr. Ruffin, who serves as the program’s coordinator.

Because these teens are facing life-threatening illnesses including leukemia, brain tumors and bone cancers, a harsh reality is that some of them do not survive. “When you become a part of this group you are choosing to get to know people more intensely. One of the possible downsides is that they may not live,” said Dr. Ruffin. “Yet we see it as an upside that you got to know them,” he explained.

When there is a death, all of the members are notified, and it’s not uncommon for a number of the teenagers to attend the funeral services. Teens are encouraged at the next monthly meeting to write something about the deceased member to send to his or her parents. “There is always something you can do to reach out to other people, even in death. You may have memories of someone which may really bring a laugh or a tear to a parent’s face,” said Dr. Ruffin.

Outreach is an important component of the group. Over the years the members of Lasting Impressions (See Lasting Impressions on Page 8)

Julian Ruffin chats with Kristen Darby (center) and Tyeshia Gary (right) at a recent Lasting Impressions monthly support group meeting.

Julian Ruffin chats with Kristen Darby (center) and Tyeshia Gary (right) at a recent Lasting Impressions monthly support group meeting.

**Preventive Efforts**

**Best Way To Avoid Eye Injuries**

A fastball. A bottle rocket. A can of hairspray.

Three seemingly unrelated objects, yet they have more in common than meets the eye. In fact, what they share is their potential threat to teenagers’ eyes.

The majority of eye injuries to South Carolina’s teens occur on the baseball diamond. In 2004, approximately 24 percent of the state’s eye injuries caused by sports were attributed to blunt trauma by a baseball. “Fortunately these injuries are usually not severe,” said Dr. Pakalnis, a professor of ophthalmology.

Thank to the development of the South Carolina Eye Injury Registry in the late 1980’s, ophthalmologists can track the type of injuries that occur to South Carolinians, including the state’s teenagers. Affiliated with the United States Eye Injury Registry, South Carolina’s registry has allowed physicians to analyze how eye injuries occur and what can be done to prevent them. This is made possible through the sponsorship of the United States Eye Injury Registry.

In 1999, the registry was expanded to include injuries caused by contact lenses. Even standard contact lenses prescribed by a doctor can present problems if not cared for properly. “When they are not used wisely, we are seeing fungal infections that are very difficult to treat,” he said.

The physician stressed that eye injuries in teens can be prevented, and that parents advocate protective eyewear when involved in particular activities such as mowing the lawn, competing on the football field, and playing paintball. All it takes is an instant for an accident to happen. Even though eye protection is required for paintball for example, injuries still occur. “Sometimes the goggles fall off or someone gets shot while cleaning their goggles,” Dr. Pakalnis said.

Novelty contact lenses pose yet another threat. Sporting designs ranging from flowers to glowing cat eyes to NFL logos, the lenses are an alluring accessory. Unfortunately they can be purchased at stores or on the Internet without a prescription or having the eye properly measured.

“If you put something on your eye and it’s not a correct fit, this foreign body resting on the eye can cause long-term damage to the eye,” Dr. Pakalnis said. Even standard contact lenses prescribed by a doctor can present problems if not cared for properly. “When they are not used wisely, we are seeing fungal infections that are very difficult to treat,” he said.

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Managed Care Credentialing Update

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Bud Weidman, M.D.
Associate Professor of Clinical Surgery

Hemphill Smith, M.D.
Associate Professor of Clinical Surgery

Stephen A. Fann, M.D.
Assistant Professor of Clinical Surgery

Department of Psychiatry
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Edward W. Cheeseman, Jr., M.D.
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Department of Neurology and Neurosurgery
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Assistant Professor of Clinical Pediatrics

Clinic Provides A Place Of Their Own

Frankly, a trip to the doctor’s office isn’t the most popular way for any teenage girl to spend her time. Add to that the potential apprehension about a gynecology appointment and undergoing the most personal of physical exams.

Yet young women in the Midlands have found a haven when it comes to gynecological and obstetrical care. Palmetto Health Women’s Center Teen Clinic is just as its name implies – a health clinic that’s geared to the specific needs of adolescents.

Patients’ needs are addressed before they even arrive. Appointments are conveniently scheduled two afternoons a week between 3:00 and 6:00 p.m. “It’s designed to be after school or when the majority of the school day is over,” said Dr. Judith Burgis, a clinical assistant professor of obstetrics and gynecology, who provides medical care at the clinic along with Department Chair, Dr. Janice Bacon, and a nurse practitioner.

For over 15 years, teens have sought services at the clinic for routine and complex gynecological problems and obstetrical care. “I think our patients have a certain comfort level here, in seeing that the other patients are a similar age and that the clinic is providing services specifically to them,” said Dr. Burgis.

All patients find that education is given a strong emphasis. “Depending on exactly why they came to the clinic, we try to talk to almost all of our patients about issues related to sexuality, sexual activity and contraception so we can help prevent an unintended pregnancy,” Dr. Burgis said. Patients are also provided with a wealth of information on other health care issues that are relevant during the teen years, including problems with menstrual periods, exercise and date rape. A series of

Trauma Surgery (Continued From Page 1)

Six surgeons in the department work with trauma patients, with Dr. Bynoe, Dr. James Morrison, and Dr. Stephen Fann specializing in trauma surgery. There’s no doubt that their services are needed. Every year some 2,000 critically injured people are brought into Palmetto Health Richland, which is designated as one of only four Level I trauma centers in the state. “Trauma sees no color and no sex; it can happen to anyone,” said Dr. Bynoe.

Since Shannon’s traumatic injury, her family has learned what Dr. Bynoe understands after years of practice. “The recovery is a lifetime process,” he said. When Shannon was discharged after a month of rehabilitation at HealthSouth Rehabilitation Hospital, she still had an open abdominal wound. The wound would have to continue healing from the inside out. Once at home, she became dehydrated easily. Trips back to the Emergency Room were common as a number of complications arose.

A little over a year later, Shannon continues the healing process. Though back in the swing of things at Wagener-Salley High School, the senior experiences ongoing pain in her abdominal area. At the computer, she types using only her right hand. Her left hand still functions slowly after her entire left side was impaired by the accident. She tires more easily these days and is more prone to infection.

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the past three years. “We talk about abstinence, but being a reality-focused person, I know we also have to address protection against sexually transmitted diseases and pregnancy,” she said. Dr. Burgis adds that prevention of an additional pregnancy is particularly important when working with a teen-age obstetrical patient. “Since they are at higher risk of having a second unplanned pregnancy, we talk to them about making plans for contraception once their baby is born,” she said.

For a young woman in her teens, pregnancy can be an overwhelming experience. “A teenager may not have as good a social support system as someone with a planned pregnancy,” said Dr. Burgis. Encompassing nurses and social workers who specialize in adolescents, the clinic staff works with patients on everything from breast-feeding to the role of the teenage father to preparing for the arrival of a baby. “Do they have a crib? Do they have clothing? We have social workers who spend a lot of time with these girls on their readiness so they don’t come home with a baby and have nothing prepared,” Humphries said.

Communication is a major priority, yet not just between the clinic staff and their obstetrical and gynecological patients. Humphries emphasizes the importance of ongoing communication between adolescents and their parents and their partners, where applicable.

“I am the parent of a teenage girl. My concern is that parents need to stay open and talk with their daughters. Yet that’s not always easy and not always the case,” said Humphries.

In fact, Humphries notes that...
A Creative Approach To Science Class

In September, they're required to master chemical reactions. In November, they practice lab safety equipment like helmets. The students' interest in chemistry often leads into discussions on topics such as the importance of calcium for strong bones and the use of safety equipment like helmets. The lessons' relevance to everyday life appeals to science teacher Andrea Karaffa. This brings the real world into the classroom, she said, admiring the imaginative manner in which the material is presented.

Even though participation at Crayton is on a voluntary basis, the number of medical students that has expressed interest for this spring has doubled over last year. Every student who volunteers is aware of the responsibility that comes with the commitment. "We hope that our students are serving as role models," Dr. Hoppmann said. "They are very professional when we go to the school, from their appearance [white coats for everyone, ties for men] to the presentations they make and how they conduct small group sessions," he added.

Medical students also have the opportunity to share their home-away-from-home with the adolescents. The tour of the School of Medicine campus, complete with lab specimens to examine, has become particularly popular with the seventh graders. For Karaffa, the field trip is another feature that her class anticipates with enthusiasm. “Being a teacher, I love seeing their excitement about the medical students,” she said.

Dr. Hoppmann is convinced that the medical students derive just as much from the experience as their middle school counterparts. “Being able to connect with patients in this age group is so important for them. I think this will make them better doctors,” he said.

Residents Reach Out

At the same time the physician appreciates the educational opportunity that the club provides for residents. “When we teach cultural competency, the whole bottom line is that a person’s beliefs and culture influence how they manage health problems. This helps expose residents from other cultural and socio-economic backgrounds to different perspectives on how other people, especially young people, view their health,” he said. Dr. Daniels would love to see the residents’ experience at the high school establish a pattern they continue throughout their careers. “We hope it stimulates them to be more community oriented, wherever they practice – whether in a city or rural setting,” he said.

Below: Dr. Damon Daniels answers a student’s question during one of the club meetings. Photo by Heidi Mehltretter
Lasting Impressions (From Page Two)

do parents find they are not in the boat alone, they find comfort in that the ship is not sinking. When they hear someone say that their daughter was diagnosed in 2002, completed treatment and is doing great, they think that their child can make it too."

As teenage patients make their way through the particular regime of surgery, chemotherapy and/or radiation that their cancer requires, Lasting Impressions also helps them manage the transition back to the lifestyle they left behind. Teens may find that the concerns of their peers seem petty or that they have a hard time trying to connect with old friends. Yet time and again Dr. Ruffin has seen many group members emerge from their ordeal with a new strength and maturity. "Even with lost limbs and bald heads, I’ve seen them go back with a much higher degree of confidence. They are proud of what they have gone through and how they managed it."

“They are proud of what they have gone through and how they managed it.” - Julian Ruffin

develop at the monthly parent group meetings. “Childhood cancer is a rare thing with only 150 kids in South Carolina diagnosed with cancer a year. So the odds are that when your son or daughter is diagnosed you don’t know another child that has cancer. One of the first things these parents need is a sense that they are not alone and that there is hope for their child,” said Dr. Ruffin. As children start down the long road of treatment, parents find the group to be a helpful resource for managing the myriad of medical, family and social issues that can accompany a serious, long-term illness. “Not only do parents find they are not in the boat alone, they find comfort in that the ship is not sinking. When they hear someone say that their daughter was diagnosed in 2002, completed treatment and is doing great, they think that their child can make it too,”

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They are proud of what they have gone through and how they managed it.” - Julian Ruffin

Keeping High School Athletes In Play

The numbers were impressive: 47 volunteers, 22 high schools, and 16 physicians.

What it all added up to was a total of 599 pre-participation examinations performed for high school athletes at the Family Practice Center. The exams, which are required by South Carolina law before any student can take part in school sports, were provided free of charge on a single Saturday in April. The April blitz was the fourth time the community service was made available to adolescents in the Midlands by the USC School of Medicine.

“We wouldn’t want anyone not to be able to participate because they couldn’t afford a physical,” said Dr. Thomas Armsey, a primary care sports medicine physician and an associate professor in the Department of Family and Preventive Medicine. In addition to the other three physicians on staff at the USC Sports Medicine Center, Dr. Armsey was assisted by two sports medicine fellows as well as Orthopaedic Surgery and Family Medicine residents.

Since many of the teens were returning to the pre-participation exams, their physicals only required an update since their last visit. Other athletes required a more extensive exam to determine their readiness to get out on the field. “Obviously we look for anything that would be potentially harmful such as any kind of cardiac or pulmonary disease or a disability that might cause an injury on the field,” said Dr. Armsey.

Over 50 athletes were not immediately cleared for play. In many of these students the issue was a heart murmur. Follow-up EKGs and echocardiograms were done after which the murmurs were all determined to be benign. Other teens needed to complete healing from recent surgery or required rehabilitation for a particular problem. For some athletes, equipment had to be modified. While it is unusual for an athlete to be held out of participation, even in extreme circumstances there are protective measures that still allow adolescents to play. “If you just had one kidney we could put you in a flack jacket to protect that kidney,” said Dr. Armsey, describing a special pad to wear around the abdomen and lower back so players couldn’t injure the remaining kidney.

A number of teenagers were found to have elevated blood pressure, which the doctors will continue to follow. “We talk to them about weight loss and hopefully are impressing upon them the benefits of aerobic exercise and a healthy lifestyle,” Dr. Armsey said. The physicians also took the opportunity to talk to the students about other health management topics including diet, drugs, sex, and sexually transmitted diseases – “all the things that adolescents worry about,” said Dr. Armsey. He stresses the importance of these discussions, citing studies that indicate many adolescents’ only contact with doctors is during their pre-participation physicals.

Sold on the many benefits of athletics, Dr. Armsey continually educates teenagers and parents on the risks involved in sports as well. “If you are out on the football field with 11 guys who can run into you, you’re at an increased risk of an ankle, knee or shoulder injury. Working on balance, coordination and strength, and making sure all your equipment is safe, can make you much more resistant to injury,” he said.
Dr. Holleman.
in pediatrics is much lower,” said
incidence of chronic kidney disease
South Carolina School of Medicine.
there are just four pediatric nephrol-
professor of pediatrics and a pediatric
Robert Holleman, a clinical assistant
how long it has been going on when
and it is often difficult to determine
with chronic kidney disease. Or that
Thirteen-year-old Chris Trigg tired
“Chronic kidney disease can be
infected with peritoneal dialysis, pa-
er found that after two or three days
of a painful infection that could result
called Trigg. He initially was fearful
time I was very nervous doing it,” re-
he sleeps, a solution flows through the
Trigg began daily peritoneal dialysis
and a half ago, he became dependent
kidneys got to the point where they
ultimately lead to end stage kidney fail-
Dr. Holleman said. Yet he added that in
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Trigg is doing well with the wait,
Meanwhile, Dr. Holleman and Dr.
As Trigg manages his diet and un-
dergoes nightly dialysis, he contin-
ues to wait for a kidney. The 20-year-
old is registered with the United Net-
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gery. “I can’t wait. The doctor told me
that education is crucial while his
system,” he said.
tricky,” Dr. Holleman said.
additional concerns, as teenagers can
of their treatment on their own with
mature teens that are perfectly cap-
tained adult caregiver is a necessity,
he noted, “There are some very
mature teens that are perfectly cap-
able of performing the vast majority
of their treatment on their own with
very little supervision.” Chris Trigg
has been one of those patients. “He’s
a real star when it comes to handling
what he needs to do for himself med-
cially,” said Dr. Holleman.
While Chris performs his dialysis
at home, some teens undergo hemo-
dialysis at a dialysis center. With the
process filtering a teenager’s blood
for three hours three times a week,
the regimen can be quite disruptive
to a regular school routine. “We
really make the effort to keep them in
school. The notion is to try to main-
tain some sense of normalcy,” Dr.
Holleman said. Yet he added that in
many cases homebound instruction
is necessary in order to prevent stu-
dents from falling behind. “We work
closely with the schools, social work-
ers, and the dialysis team,” he said.

See Chronic Kidney Disease on Page 7.

The key is to keep him as healthy as
possible until he gets his kidney.”
Dr. Robert Holleman
on patient
Chris Trigg

Teens with kidney disease also
have to watch what they eat, avoid-
ing particular foods that can cause
buildup of wastes in their system.
“Dietary limitations are a very diffi-
cult part of their care,” said Dr.
Holleman. Kidney failure brings ad-
ditional concerns, as teenagers can
lose their appetite, have altered taste
at times, and get full after much less
than they are accustomed to eating.
“They can become malnourished, so
we have to stay on top of that. To do
so within the dietary limitations is
tricky,” Dr. Holleman said.

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dergoes nightly dialysis, he contin-
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that with a new kidney I will be like a
normal person,” he said.

Meanwhile, Dr. Holleman and Dr.
Sakarcan (The School of Medicine’s
other pediatric nephrologist) see
Trigg once a month. “We’re helping
him maintain his health as we can
with dialysis and medications.
The key is to keep him as healthy as
possible until he gets his kidney,” Dr.
Holleman said. The physician stressed
that education is crucial while his
teenage patients are on the waiting
list for a kidney. He uses this time to
provide realistic expectations for what
to expect after the surgery. “After you
get a transplant there is still a fairly
intensive care plan that involves mul-
tiple medications and frequent clin-
ic visits with blood draws,” he said.

Compliance after transplant sur-
gery can be a problematic issue.
Teens sometimes balk at taking the
very medications that are crucial to
their recovery. “They typically are put
on prednisone, which alters your ap-
pearance and causes weight gain.
That’s hard for a teenager who is con-
cerned about his or her appearance,”
Dr. Holleman said. “We explain
ahead of time that not taking their
medications after surgery means they
could lose the kidney they waited so
long to receive,” he said.

Dr. Holleman understands that
waiting for a kidney is a difficult pro-
cess for young people to endure. “I
can only imagine being a teenager
and being tired of dialysis and the re-
strictions placed on me. If these kids
don’t have a relative who can be a do-
nor, they never know when a kidney
is coming. Unfortunately there are
more patients waiting for transplant
than there are organs available; that’s
the nature of the organ donation
system,” he said.

Trigg is doing well with the wait,
even though he still tires easily with
physical activity. He looks forward to
a time when he won’t have limitations
on what he can do, and when he can
pursue a career in law enforcement.
Dr. Holleman looks forward to that
time as well. “With a transplant, if all
goes well, you walk away with nor-
mal kidney function. That’s the ulti-
mate goal,” the physician said.

Alumni Weekend
The 2006 USC School of Medicine
Alumni Weekend and Black Tie White
Coat Gala will be held March 3 and
4. The weekend will begin with the
alumni board and committee meet-
ings the afternoon of March 3, fol-
lowed by the gala and a silent auc-
tion that evening. All proceeds from
the gala will support the Columbia
Free Medical Clinic and the Alumni
Scholarship Fund. Class reunions will
be held on March 4 for the classes of
To register for the alumni week-
end, or for more information on other
upcoming School of Medicine Alumni
Association events, visit their web ad-
dress at alumni.med.sc.edu. Or con-
tact Debbie Truluck at 733-1568 or
at truluck@med.sc.edu.
Treating Chronic Kidney Disease

Dr. Holleman sees Trigg on a regular basis in order to monitor his health status and the medications he is taking. Yet even with consistent medical care, kidney disease can eventually lead to end stage kidney failure as the disease progresses. That’s exactly what happened to Trigg as his kidneys got to the point where they could no longer do their job. A year and a half ago, he became dependent on dialysis to remove the waste products and extra water from his blood.

After having a catheter surgically implanted in his abdominal cavity, Trigg began daily peritoneal dialysis at home. Before bed, he connects himself to a piece of equipment. While he sleeps, a solution flows through the catheter, washing the wastes and extra fluid from his blood. “The first time I was very nervous doing it,” recalled Trigg. He initially was fearful that with a new kidney I will be like a normal person,” he said.

Meanwhile, Dr. Holleman and Dr. Sakarcan (The School of Medicine’s other pediatric nephrologist) see Trigg once a month. “We’re helping him maintain his health as best we can with dialysis and medications. The key is to keep him as healthy as possible until he gets his kidney,” Dr. Holleman said. The problem the education is crucial while his teenage patients are on the waiting list for a kidney. He uses this time to provide realistic expectations for what to expect after the surgery. “After you get a transplant there is still a fairly intensive care plan that involves multiple medications and frequent clinical visits with blood draws,” he said.

Compliance after transplant surgery can be a problematic issue. Teens sometimes balk at taking the very medications that are crucial to their recovery. “They typically are put on prednisone, which alters your appearance and causes weight gain. That’s hard for a teenager who is concerned about his or her appearance,” Dr. Holleman said. “We explain ahead of time that not taking their medications after surgery means they could lose the kidney they waited so long to receive,” he said.

Dr. Holleman understands that waiting for a kidney is a difficult process for young people to endure. “I can only imagine being a teenager and being tired of dialysis and the restrictions placed on me. If these kids don’t have a relative who can be a donor, they never know when a kidney will become available from a deceased donor,” he said. Dr. Holleman added, “We explain ahead of time that not taking their medications after surgery means they could lose the kidney they waited so long to receive,” he said.

Dr. Holleman looks forward to that moment when he won’t have limitations on what he can do, and when he can pursue a career in law enforcement. Dr. Holleman looks forward to that time as well. “With a transplant, if all goes well, you walk away with normal kidney function. That’s the ultimate goal,” the physician said.

Alumni Weekend

The 2006 USC School of Medicine Alumni Weekend and Black Tie White Coat Gala will be held March 3 and 4. The weekend will begin with the alumni board and committee meetings the afternoon of March 3, followed by the gala and a silent auction that evening. All proceeds from the gala will support the Columbia Free Medical Clinic and the Alumni Scholarship Fund. Class reunions will be held on March 4 for the classes of 1981, 1986, 1991, 1996 and 2001.

To register for the alumni weekend, or for more information on other upcoming School of Medicine Alumni Association events, visit their web address at alumni.med.sc.edu. Or contact Debbie Truluck at 733-1568 or at truluck@med.sc.edu.
Lasting Impressions (From Page Two)

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Humphries said. “If I can get through difficult questions at the clinic that teens often feel comfortable asking, the hope is that they are learning here,” said Dr. Ruffin. As children start down the long road of treatment, parents find the group to be “a helpful resource for managing the myriad of medical, family and social issues that can accompany a serious, long-term illness. “Not only do parents find they are not in the boat alone, they find comfort in that the ship is not sinking. When they hear someone say that their daughter was diagnosed in 2002, completed treatment and is doing great, they think that their child can make it too. As teenage patients make their way through the particular regime of surgery, chemotherapy and/or radiation that their cancer requires, Lasting Impressions also helps them manage the transition back to the lifestyle they left behind. Teens may find that the concerns of their peers seem petty or that they have a hard time trying to connect with old friends. Yet time and again Dr. Ruffin has seen many group members emerge from their ordeal with a new strength and maturity. “Even with lost limbs and bald heads, I’ve seen them go back with a much higher degree of confidence. They are proud of what they have gone through and how they managed it.”

“They are proud of what they have gone through and how they managed it.” - Julian Ruffin

develop at the monthly parent group meetings. “Childhood cancer is a rare thing with only 150 kids in South Carolina diagnosed with cancer a year. So the odds are that when your son or daughter is diagnosed you don’t know another child that has cancer. One of the first things these parents need is a sense that they are not alone and that there is hope for their child,” said Dr. Ruffin. As children start down the long road of treatment, parents find the group to be a helpful resource for managing the myriad of medical, family and social issues that can accompany a serious, long-term illness. “Not only do parents find they are not in the boat alone, they find comfort in that the ship is not sinking. When they hear someone say that their daughter was diagnosed in 2002, completed treatment and is doing great, they think that their child can make it too. As teenage patients make their way through the particular regime of surgery, chemotherapy and/or radiation that their cancer requires, Lasting Impressions also helps them manage the transition back to the lifestyle they left behind. Teens may find that the concerns of their peers seem petty or that they have a hard time trying to connect with old friends. Yet time and again Dr. Ruffin has seen many group members emerge from their ordeal with a new strength and maturity. “Even with lost limbs and bald heads, I’ve seen them go back with a much higher degree of confidence. They are proud of what they have gone through and how they managed it.”

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The numbers were impressive: 47 volunteers, 22 high schools, and 16 physicians. What it all added up to was a total of 519 pre-participation examinations performed for high school athletes at the Family Practice Center. The exams, which are required by South Carolina law before any student can take part in school sports, were provided free of charge on a single Saturday in April. The April blitz was the fourth time the community service was made available to adolescents in the Midlands by the USC School of Medicine. “We wouldn’t want anyone not to be able to participate because they couldn’t afford a physical,” said Dr. Thomas Armsey, a primary care sports medicine physician and an associate professor in the Department of Family and Preventive Medicine. In addition to the other three physicians on staff at the USC Sports Medicine Center, Dr. Armsey was assisted by two sports medicine fellows as well as Orthopaedic Surgery and Family Medicine residents. Since many of the teens were returning to the pre-participation exams, their physicians only required an update since their last visit. Other athletes required a more extensive exam to determine their readiness to get out on the field. “Obviously we look for anything that would be potentially harmful such as any kind of cardiac or pulmonary disease or a disability that might cause an injury on the field of play,” said Dr. Armsey. Over 50 athletes were not immediately cleared for play. In many of these students the issue was a heart murmur. Follow-up EKGs and echocardiograms were done after which the murmurs were all determined to be benign. Other teens needed to complete healing from recent surgery or required rehabilitation for a particular problem. For some athletes, equipment had to be modified. While it is unusual for an athlete to be held out of participation, even in extreme circumstances there are protective measures that still allow adolescents to play. “If you just had one kidney we could put you in a flack jacket to protect that kidney,” said Dr. Armsey, describing a special pad to wear around the abdomen and lower back so players couldn’t injure the remaining kidney. A number of teenagers were found to have elevated blood pressure, which the doctors will continue to follow. “We talk to them about weight loss and hopefully are impressing upon them the benefits of aerobic exercise and a healthy lifestyle,” Dr. Armsey said. The physicians also took the opportunity to talk to the students about other health management topics including diet, drugs, sex, and sexually transmitted diseases — “all the things that adolescents worry about,” said Dr. Armsey. He stresses the importance of these discussions, citing studies that indicate many adolescents’ only contact with doctors is during their pre-participation physicals.

Sold on the many benefits of athletics, Dr. Armsey continually educates teenagers and parents on the risks involved in sports as well. “If you're at an increased risk of an ankle, knee or shoulder injury, you're at an increased risk of an ankle, knee or shoulder injury. Working on balance, coordination and strength, and making sure all your equipment is safe, can make you much more resistant to injury,” he said.
Medical Students Team Up With Seventh Graders

A Creative Approach To Science Class

In September, they’re required to master chemical reactions. In November, they take on cell processes. Yet come spring, two classes at Columbia’s Crayton Middle School have found there’s more than one way to tackle the rigors of seventh grade science.

For the past two years, first and second year medical students from the University of South Carolina School of Medicine have served as guest instructors to science classes at the middle school. Their lessons are structured to coordinate with classroom learning, then infused with a creative, hands-on approach. The result: a dynamic learning experience for the adolescents and future physicians alike.

It’s obvious as the 12 and 13-year-olds enthusiastically gather around the medical students that the relationship between the two groups is a positive one. It’s also an enjoyable one as seventh graders engage in activities such as an unusual twist on bingo. Not surprisingly, the bingo cards used are not standard fare; each space contains an inherited trait such as an attached earlobe or the ability to roll one’s tongue. The game cards used are not standard fare; each space contains an inherited trait such as an attached earlobe or the ability to roll one’s tongue. The game serves as an introduction to a lesson on genetics.

During a session on medical technology, x-rays and containers of body parts are used to explain how they function. “When these teenagers decide to pursue a particular career, they may not have someone in their family who knows anything about that,” said Dr. Damon Daniels, an assistant professor of clinical family and preventive medicine. “Being a teacher, I love seeing their excitement about the material is presented.

Even though participation at Crayton is on a voluntary basis, the number of medical students that has expressed interest for this spring has doubled over last year. Everyone who volunteers is aware of the responsibility that comes with the commitment. “We hope that our students are serving as role models,” Dr. Hoppmann said. “They are very professional when we go to the school, from their appearance [white coats for everyone, ties for men] to the presentations they make and how they conduct small group sessions,” he added.

Medical students also have the opportunity to share their home-away-from-home with the adolescents. The tour of the School of Medicine campus, complete with lab specimens to examine, has become particularly popular with the seventh graders. For Karaffa, the field trip is another feature that her class anticipates with enthusiasm. “Being a teacher, I love seeing their excitement about the medical students,” she said.

Dr. Hoppmann is convinced that the medical students derive just as much from the experience as their middle school counterparts. “Being able to connect with patients in this age group is so important for them. I think this will make them better doctors,” he said.

Residents Reach Out

At C.A. Johnson High School in Columbia, teens munch on chicken filet sandwiches while chatting about music, algebra homework, and Friday night’s basketball game.

For one group of students, lunchtime conversations take an entirely different direction, sprinkled with words like “pediatric surgeon” and “heart disease” and “blood typing.” “Unusual for the high school crowd? Not if they are members of the C.A. Johnson Health Professions Science Club.

“The club is a natural fit with our practice’s relocation in the community in 2003 and the school’s need [as a math and science academy] to expose students to health professions,” said Dr. Damon Daniels, an assistant professor of clinical family and preventive medicine. In partnership with S.C. AHEC and the school’s guidance department, the Department of Family and Preventive Medicine sponsors meetings at the school two or three times a month.

Along with Dr. Patricia Witherspoon, Dr. Daniels coordinates the community residency rotation for the Family Medicine Residency. Involvement with the club at C.A. Johnson is a requirement of the month-long rotation for first year residents. Along with other health care professionals, residents share what drew them to the field and what their career choice involves. Then the floor is opened up to questions, ranging from educational requirements to salary expectations.

“One of the reasons we are doing this is that there is such a huge disparity in terms of minorities going into any healthcare profession,” said Dr. Daniels, noting that the intercity school has a predominantly low-income, African-American student body. “When these teenagers decide to pursue a particular career, they may not have someone in their family who knows anything about that. We try to provide the support necessary to work towards their goals,” he said.

The club meetings also address a variety of health care topics. A presentation on healthy eating looked at calorie counts in fast food meals. A discussion on heart disease led one student to question why his grandmother suffered a fatal heart attack. “We get a lot of family questions. Although they don’t always come out and say it, we can tell the kids are asking certain questions because they know someone with a particular medical problem,” Dr. Daniels said.

In addition to learning about career options and health matters over the past three years, students in the club have started to put their new knowledge to action. Members organized a blood drive at the school last year. Plans are underway for a health fair at C.A. Johnson in the spring, where trained volunteers will conduct blood pressure screenings. Dr. Daniels anticipates more projects in the future.

At the same time the physician appreciates the educational opportunity that the club provides for residents. “When we teach cultural competency, the whole bottom line is that a person’s beliefs and culture influence how they manage health problems. This helps expose residents from other cultural and socio-economic backgrounds to different perspectives on how other people, especially young people, view their health,” he said. Dr. Daniels would love to see the residents’ experience at the high school establish a pattern they continue throughout their careers. “We hope it stimulates them to be more community oriented, wherever they practice – whether in a city or rural setting,” he said.

Below: Dr. Damon Daniels answers a student’s question during one of the club meetings. Photo by Heidi Mehltretter
Trauma Surgery (Continued From Page 1)

Six surgeons in the department work with trauma patients, with Dr. Bynoe, Dr. James Morrison, and Dr. Stephen Fann specializing in trauma surgery. There’s no doubt that their services are needed. Every year some 2,000 critically injured people are brought into Palmetto Health Richland, which is designated as one of only four Level I trauma centers in the state. “Trauma sees no color and no sex; it can happen to anyone,” said Dr. Bynoe.

Since Shannon’s traumatic injury, her family has learned what Dr. Bynoe understands after years of practice. “The recovery is a lifetime process,” he said. When Shannon was discharged after a month of rehabilitation at HealthSouth Rehabilitation Hospital, she still had an open abdominal wound. The surgery had to continue healing from the inside out. Once at home, she became dehydrated easily. Trips back to the Emergency Room became commonplace as a number of complications arose.

A little over a year later, Shannon continues the healing process. Though back in the swing of things at Wagner-Salley High School, the senior experiences ongoing pain in her abdominal area. At the computer, she types using only her right hand. Her left hand functions slowly after her entire left side was impaired by the accident. She tires more easily these days and is more prone to infection.

And while Shannon’s surgical recovery goes on, her life returns to normalcy. “Every few minutes Dr. Bynoe and the medical personnel struggled to restore Shannon’s dangerously low oxygen level. “Every few minutes Dr. Bynoe would update us on her condition. At midnight he came to us and said, ‘It’s in someone else’s hands now. We have done all we can do. The medical center needs to work,’“ Angie said. As Shannon pulled through that night and the next and the next, her mother remembered, “We pretty much lived at the hospital those three days.”

During a month-long hospitalization at Palmetto Health Richland, the teen underwent five more surgeries and four bags of platelets. In addition to Dr. Bynoe, other physicians in the Department of Surgery were involved in Shannon’s care.
TEENS WITH CANCER SHARE LASTING IMPRESSIONS

Snap a digital photo to capture a typical teenager. Would it be taken at a pep rally or on a part-time job? How about in a French class or at a football game?

It certainly wouldn’t show a 16-year-old in a hospital bed. Yet introduce a cancer diagnosis in a young person’s life and the picture changes dramatically. Sudden changes in the routine of study with resulting missed classes and medical appointments can put a strain on any family, especially in the early stages of treatment.

“One of the biggest factors in dealing with cancer as a teenager is the sense of being different. They are in a phase of life when they want to fit in,” said Julian Ruffin, Ph.D., a clinical associate professor of pediatrics and Coordinator of Psychosocial Programs for the Children’s Center for Cancer and Blood Disorders at Palmetto Health Richland.

Isolation is another difficult pill to swallow. “During the early phases of treatment it is often difficult to attend school regularly because of the intensity of the treatment and its side effects,” he explained.

Yet teenagers in the Midlands and throughout South Carolina don’t have to go it alone, thanks to a program provided through the Division of Pediatric Hematology and Oncology and the Children’s Center for Cancer and Blood Disorders. Named Lasting Impressions by the initial group of teenagers in 1986, the program addresses the unique needs of these patients and their families.

Monthly support group meetings (separate sessions for teens and parents) are held to coincide with a Thursday clinic day when many teens are scheduled for medical appointments. Teenagers can also attend quarterly retreats and participate in projects like the Teen Link newsletter and a memory book that chronicles various activities. As the Lasting Impressions members enjoy a ski trip, a weekend at a ranch and sailing in the Chesapeake Bay, Dr. Ruffin notes, “it’s not where we have gone, but what happens while we are there.”

What happens is that teens open up to each other, sharing a gamut of feelings about the disease that has invaded their lives. Strong, supportive bonds form. “I’ve often heard teens say, ‘It’s hard for me to relate even to my good friends. With this group I don’t have to explain about my blood count or my treatment,’” said Dr. Ruffin, who serves as the program’s coordinator.

Because these teens are facing life-threatening illnesses including leukemia, brain tumors and bone cancers, a harsh reality is that some of them do not survive. “When you become a part of this group you are choosing to get to know people more intensely. One of the possible downsides is that they may not live,” said Dr. Ruffin. “Yet we see it as an upside that you got to know them,” he explained.

When there is a death, all of the members are notified, and it’s not only to their parents. “There is always a sense of being different. They are in a phase of life when they want to fit in,” said Dr. Ruffin.

“The majority of eye injuries to South Carolina’s teens occur on the baseball diamond. In 2004, approximately 24 percent of the state’s eye injuries caused by sports were attributed to blunt trauma by a baseball. Fortunately these injuries are usually not severe,” said Dr. Pakalnis, a professor of ophthalmology.

Thanks to the development of the South Carolina Eye Injury Registry in the late 1980’s, ophthalmologists can track the type of injuries that occur to South Carolinians, including the state’s teenagers. Affiliated with the United States Eye Injury Registry, South Carolina’s registry has allowed physicians to analyze how eye injuries occur and what can be done to prevent them. This is made possible through the sponsorship of the S.C. Society of Ophthalmology, which provides software and a central computer site for collecting data from the national entity.

Take the case of penny and nickel bottle rockets. Before Dr. Pakalnis and Senator Warren Giese approached the South Carolina Legislature in 1989 about banning them, these bottle rockets caused two to four cases of molecular blindness annually in the state’s young people. “These small, cheap fireworks that kids could freely shoot at each other were responsible for the most severe injuries leading to blindness in one eye and loss of the eye,” said Dr. Pakalnis.

Even after legislation abolished the small bottle rockets, other types of fireworks still cause eye injuries in South Carolina’s teens. The key to avoiding eye injury with fireworks, Dr. Pakalnis insists, is parental involvement. “If adults would simply supervise their children. Kids are just going to be kids and don’t always understand what they are doing, like putting more than one firecracker or cherry bomb in a can. They don’t realize that what they have done is constructed a miniature hand grenade,” he said. “It’s like shrimp when it blows up.”

Teens’ focus on their appearance can even be a source of potential injury to their eyes. “Hair spray is one unsuspecting culprit. ‘Hair spray contains very volatile hydrocarbons in it that can melt into the cornea when it hits the eyes. This can burn the eye and can result in infection,” said Dr. Pakalnis. Novelty contact lenses pose yet another threat. Sporting designs ranging from flowers to glowing cat eyes to NFL logos, the lenses are an alluring accessory. Unfortunately they can be purchased at stores or on the Internet without a prescription or having the eye properly measured. “If you put something on your eye and it’s not a correct fit, this foreign body resting on the eye can cause long-term damage to the eye,” Dr. Pakalnis said. Even standard contact lenses prescribed by a doctor can present problems if not cared for properly. “When they are not used wisely, we are seeing fungus infections that are very difficult to treat,” he said.

The physician stressed that eye injuries in teens can be prevented, stressing that parents advocate protective eyewear when involved in particular activities such as mowing the lawn, competing on the football field, and playing paintball. All it takes is an instant for an accident to happen. Even though eye protection is required for paintball for example, injuries still occur. “Sometimes the goggles fall off or someone gets shot while cleaning their goggles,” Dr. Pakalnis said.

Julian Ruffin chats with Kristen Darby (center) and Tyeesha Gary (right) at a recent Lasting Impressions monthly support group meeting. Photo by Heidi McInven.
Scars are everyday reminders of the accident that nearly took her life, her perspective is a positive one. She plans a career in the medical field when she starts college in the fall. Though always close to her family, she’s developed an even tighter bond with her parents and 15-year-old brother. “A lot of things that used to matter don’t matter any more,” said the teenager who no longer obsesses about her appearance. “She used to be 30 minutes late just so she could look good,” her mother recalls. “Now she just wants people to accept her as she is.”

Dr. Bynoe appreciates the young woman that he continues to follow medically. “It’s rewarding,” he said about her recovery process. “It’s the thing that keeps you going.” And while he appreciates that Shannon pulled through a serious accident, he stressed that her survival was not enough. “Trauma care is not just about saving lives, but that patients like Shannon can get back to being productive individuals,” he said. He noted the unfortunate fact that trauma is the number one cause of death for people under 45 years old. “It’s bigger than cancer and heart disease and all the diseases that people think about,” he said.

Because teenagers can be particularly at risk for traumatic accidents, Dr. Bynoe and the other surgeons frequently present programs that help teens understand the risks of driving, taking chances, and risky behaviors that could bring them harm. “Driving is not a right, but a privilege. Kids need to be prepared to get out on the highway,” he said. “We also stress that if necessary, calling a cab is not a bad thing to do.”

And while Dr. Bynoe hopes their educational efforts will steer some teens away from making bad choices, the reality is that trauma will never be eliminated. “I look at what we do the same way as the ambulance and fire and police services. You never want to see us, but when you need us, you want us to be available,” he said. The Johns family was certainly grateful those trauma services were available on a rainy November night in 2004. “Theirs was an example of a family’s worst nightmare,” Dr. Bynoe said. “Yet it didn’t end as a nightmare.”

A year after her accident, Shannon Johns spends more time at home on the family farm in Wagener. Photo by Heidi Mehltretter

Trauma Care Saves Teen’s Life

November 4, 2004

The accident happened less than three miles from home.

Sixteen-year-old Shannon Johns was almost back to her family’s 144-acre farm in Wagener when she hit a curve going too fast. The teenager’s haste to get home in time, rainy driving conditions, and slick roads made a dangerous combination. “I remember holding on tight to the steering wheel and praying to God,” she recalled as she lost control of the vehicle.

Unrestrained in her prized red Camaro, Shannon was ejected from the car, which flipped a number of times on the Aiken County highway. A passerby summoned 911, and the teenager was transported by helicopter to Palmetto Health Richland.

When her parents arrived at the hospital, they found out that the news wasn’t good. Dr. Raymond Bynoe, a trauma surgeon and an associate professor of surgery, met with the family. “He told us that her condition was critical and that she had to go to the OR immediately,” her mother, Angie, said.

Shannon had suffered extensive internal abdominal injuries, thoracic injuries and a closed head traumatic brain injury from the accident. “She didn’t look like Shannon when we first saw her. She had started swelling, she had blood on her face and arms, and all kinds of medical stuff everywhere,” her mother recalled.

As surgeons addressed Shannon’s multiple injuries in the operating room, they needed to remove her spleen, which had ruptured. “There was so much fluid that we could not close her abdomen,” Dr. Bynoe said. Angie and her husband, Curt, remember.