Study: Obesity surgery reverses diabetes in teens

By STEPHANIE NANO
The Associated Press

Monday, December 29, 2008

NEW YORK — Obesity surgery can reverse diabetes in teens, just as it does in adults, according to a small study.

All but one of the 11 extremely obese teens studied saw their diabetes disappear within a year after weight-loss surgery, the researchers reported. The 11th patient still had diabetes, but needed much less insulin and stopped taking diabetes pills.

Previous studies have shown the diabetes benefits of obesity surgery for adults. Dr. Thomas Inge, a pediatric surgeon at Cincinnati Children’s Hospital Medical Center, and his colleagues wanted to find out if the same was true for adolescents.

Although more research is needed, Inge said the study “opens the door” to weight-loss surgery as a treatment option for severely obese teens with Type 2 diabetes.

The results are in the January issue of Pediatrics and are being released Monday.

About a third of U.S. youngsters are either overweight or obese. Increasing numbers of obese children are being diagnosed with Type 2 diabetes, the most common form of the disease and the one linked to obesity. It was seldom seen before in kids.

"It's marching south through the generations, which is very scary," said Dr. Larry Deeb, a former president of the American Diabetes Association and a spokesman for the group.

Teen candidates for weight-loss surgery need to be carefully selected, he said, since the long-term consequences of the operation for children aren't yet known.

The 11 patients in the study were 14 to 21 years old and all were extremely obese, ranging from 250 to 403 pounds. They were taking diabetes pills and one was on insulin. At five different medical centers, they had gastric bypass surgery, or stomach stapling, to reduce their stomach to a small pouch.

They were compared to 67 mostly obese teens with diabetes at Cincinnati Children’s whose blood sugar was being controlled through diet or medication.

After one year, those who had surgery had lost between 72 and 218 pounds, although none had dropped to a normal weight. For 10 of them, their diabetes was in remission and they stopped taking diabetes medicine.

For the teens who didn't have surgery, they all still had diabetes after a year and there was no difference in their weight or their use of diabetes medication. Their blood sugar levels did improve, the researchers said.

As for the one surgery patient whose diabetes wasn't reversed, the researchers said the reason wasn't known, but they noted his mother and a younger sibling also had Type 2 diabetes. Three years after the surgery, the teen was no longer overweight but still needed to take insulin.

Another explanation could be that his diabetes was more advanced that the other teens, Inge said. Adult studies have indicated that the chances of diabetes reversal are better the sooner surgery is done after diagnosis, he said.

“We caught the others in early stage of disease,” Inge said. “Did we miss the boat on this one?”
On the Net:
Pediatrics: http://www.aap.org/
American Diabetes Association: http://www.diabetes.org/

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Editorial: ECU vision - Donors looking past tough times

Sunday, December 28, 2008

Measuring the effect of a recession on a major fundraising effort is not difficult. The flow of donations for any given cause typically slows during times of economic hardship.

And while that is the case for East Carolina University's most ambitious fundraising effort in 15 years, the pace of giving has not slowed enough to effect changes in goals attached to the campaign. That's good news for eastern North Carolina and a testament to the region's commitment to helping the university shape and achieve its vision for the next 100 years.

ECU's Second Century campaign had raised more than $90 million before it was publicly announced last March. By mid-December, the campaign had raised $117 million toward its goal of reaching $200 million by Dec. 31, 2012. Amassing more than $27 million during a year with so many competing economic forces demonstrates a credibility of the highest order.

And yet, the Second Century campaign represents only a portion of what will be needed to fund ECU's strategic plan. ECU Tomorrow: A Vision for Leadership and Service contains five directions in which the university intends to chart its course into its second century.

"Funding this margin of excellence, "according to Chancellor Steve Ballard," will require in excess of $1 billion over the next 10-15 years."

All donations are counted toward the campaign goal of $200 million. In soliciting contributions, ECU points to scholarship opportunities and the university's foundation of leadership. Also listed are ECU's contributions to regional economic prosperity, health care and medical innovation, the arts, culture and quality of life.

Virtually every portion of eastern North Carolina contains public displays of pride for ECU. A lot of that presence can be attributed to athletics, especially in a year when the Pirates football team holds the conference championship title. But pride in athletics will only carry a school so far.

For a public institution to achieve its most ambitious goals, there must be comprehensive public support for continued growth in all areas of the university. ECU recognizes that it cannot rely on the state to match the school's level of ambition, and residents of eastern North Carolina are responding to that recognition — even during tough economic times.

Measuring the effect of a recession on major fundraising is easy. The hard part is mitigating that effect, and ECU and those who support it are to be commended for doing just that.
Former Rose, ECU player opens fitness center with vision of helping local youth

BY MIKE GRIZZARD
The Daily Reflector

When Anthony Adams reflects on those who have had a positive impact on his life or set an example he admires, the list seems almost endless.

There are the coaches and administrators during his days at J.H. Rose High School, leaders such as Ronald Vincent, Tommy Peacock, Lonnie Baker and James Rankins.

There are his coaches while at East Carolina University, particularly then strength and conditioning coach Jeff Connors.

There are local pastors Sidney Lockes, James Corbett and Rosie O’Neal, and Chuck Young with SportWorks Ministry.

And there are many others.

“I probably missed some people,” Adams said. “All of those people are in some type of service where they’re giving back and they’re helping people, and they love to do it. That’s what gets me going in the mornings. ... I think with my faith and what I believe in, I believe that has helped me overcome a lot of obstacles and also given me a vision of outreach to people.”

Adams hopes to do that in part through Resultz Fitness Training, which he opened in Kimberly Square on Memorial Drive. Since graduating from ECU in 2003, he has worked primarily in sales but seems rejuvenated by a return to his roots — and passion — of fitness and athletics.

“It’s my nature,” Adams said. “I love helping people; I love giving back to people. That’s just the way I was brought up here in Greenville. The community has been very supportive when I was playing sports. ... It’s the best feeling in the world to see kids excited that you go over and talk to them. You can tell them something that you’ve been through and help them go through it so they don’t make some of the mistakes you’ve made.”

Adams and his twin brother, Antwan Adams, now with BB&T in Greensboro, were standout athletes in football and basketball at Rose, then stayed close to home at ECU and were starting by their sophomore season. Their framed ECU jerseys — Anthony’s No. 12 and Antwan’s No. 13 — hang prominently on a back wall of the Resultz studio.

Those serve as reminders of success but also that the playing days will eventually end for all athletes. When the phone didn’t ring on NFL draft day after his senior season, Adams put his degree to work — an example he wants to pass on to local youth.

“What you have upstairs, no one can ever take from you,” he said. “There’s going to be a day when the air runs out of that ball. I’ll never forget that feeling. ... I made a promise to myself, and I made a promise to my mom.”

He considered motivational speaking or other ways to be an influence. His mom, Aileen Adams, helped steer him in the direction he chose.

“We started praying about it, and the vision started to become clear,” he said. “She’s been a cheerleader and a mother and a best friend. ... That’s one of the things I’m very fortunate of is to have a mother who’s always instilled principles in us. We always went to church every Sunday. We had a good biblical foundation, and we have some good people in our lives to help encourage us.”

Most anyone can get results at Resultz, Adams said. He has a broad focus, hoping to provide fitness programs for churches and organizations; give one-on-one and group instruction; and be a workout refuge for former ECU players like Vonta Leach, Terrance Copper and David Garrard when they are back in town for a few days.

His workout equipment at Resultz mirrors much of what he trained on at ECU to improve strength and conditioning — stations for hip flexors, leg extensions, leg presses, bicep curls, tricep extensions and chest presses. Also available are free weights, treadmills, a step machine, exercise bike and elliptical machine.

“We’ve got a little variety, pretty much where you can get a complete body workout with different exercises,” Adams said.

He said Connors and Greg Lassiter, owner of Champions in Winterville, have been instrumental in advice and getting Resultz started.

“I’ve really got to give a hat’s off to Greg,” Adams said. “He’s been very helpful. He gave me a lot of great advice in helping me get everything set up in here.”
Budgets tight at private colleges

Exodus of students, decline in endowments put wealthier campuses in a financial bind

JANE STANCILL, Staff Writer
Comment on this story

Private colleges in North Carolina are looking toward 2009 with a wary eye.

Heavily dependent on tuition and investment funds that have taken a beating in the past few months, private universities are bracing for tough times. Some are freezing hiring, delaying construction, cutting course offerings and trimming some part-time faculty.

Their biggest fear is that come spring, prospective students frightened by the economic situation will take their money to cheaper public universities and community colleges or stay away from college altogether. And students who do choose private colleges are likely to need more financial aid.

Leaders are scouring budgets and making contingency plans. Even the wealthiest campuses aren't immune. The value of Duke University's endowment declined by 19 percent -- a drop of $1 billion -- which could lead to budget cuts and a delay in Duke's long-planned Central Campus.

Elon University will admit more students for next fall to offset an expected decline in the number of students who accept the admissions offer. Susan Klopman, Elon's vice president for admissions and financial planning, said parents have watched their children's college savings plans plummet by as much as half.

"I've never seen families so completely thrown off base," she said.

Because students these days typically apply to eight to 10 schools, it is more difficult for colleges to accurately predict the size of the incoming freshman class.

"We don't need to panic," Klopman said. "We need to be very cautious and aware of the uncertainty our families are feeling."

Fewer students

A decline in students could be a substantial blow, especially at small colleges. A survey of 371 private college presidents released this month showed that nearly half were expecting enrollment to slide 1 percent to 10 percent in the spring semester -- a bigger decline than normal. About half of the leaders had frozen hiring, slowed construction and restricted travel budgets. Eleven percent said they had laid off faculty, or plan to, according to the survey by the National Association of Independent Colleges and Universities.

Colleges will find it difficult to slash spending on financial aid. Hope Williams, president of N.C. Independent Colleges and Universities, said schools will have to adapt as students' financial circumstances change.

"What we want to try to do is assure families who may be affected by this economic downturn that we will work with them in every way possible to make sure their children can stay in school," she said. "The best thing long term is to be able to keep them in school."

The worsening economic climate brings added challenges for campuses that were already in financial difficulty.
Doubly down

Enrollment at St. Andrews Presbyterian College in Laurinburg was down this fall by 125, to 625 students, following the school's accreditation problems. Last year the college filed a federal lawsuit against a regional accrediting organization, the Southern Association of Colleges and Schools.

The association, which passes judgment on the quality and strength of all colleges in the region, had moved to drop St. Andrews' accreditation because of concerns about financial stability.

A loss of accreditation spells doom for a college because its students are no longer eligible for federal financial aid.

St. Andrews is cutting its budget and laying off employees, but is also trying two new tactics to draw more students. The school plans to launch courses online next month. The college also has signed a contract with a company that recruits international students to U.S. campuses.

The school now has about $20 million in debt, the college's president, Paul Baldasare, said in a recent interview. But as the lawsuit makes its way through the courts, Baldasare said, St. Andrews isn't standing still.

"I think we've got the staying power to see it through," he said.

Making do with less

Louisburg College, a two-year private college in Franklin County, has its own problems with accreditation. This month, the accrediting association continued Louisburg's probation period for one year. The college has made substantial changes since it was placed on warning last year. It slashed its operating budget by $1.6 million by cutting 20 jobs and reducing its tuition discount rate.

The college has paid down its debt from $7 million to about $5.5 million, said Rodney Foth, interim president. The accrediting group liked the changes, Foth said, but wants to see a longer trend of financial stability.

Still, enrollment was down this fall, to 586 from 724 students last year. That meant the college employed fewer part-time faculty and offered 50 fewer course sections.

The college has made other money-saving decisions, such as patching an auditorium roof instead of replacing it. Foth, whose office is moving to make way for the incoming president next month, may stack his books on the floor rather than order new bookshelves.

He expects the probation to be lifted in a year. Eventually Louisburg wants to offer four-year degrees.

"We're trying to do everything we can with every penny we have in order to ensure a positive result," he said.

jane.stancill@newsobserver.com or 919-956-2464

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Our Views

New addition
Center’s opening will be landmark

With economic uncertainty taking a brutal toll on many North Carolina communities, Pitt County is fortunate to have several institutions that provide employment stability as well as broad public benefit. Next month it will add another with the opening of the East Carolina Heart Institute, the long-awaited addition to Pitt County Memorial Hospital and East Carolina University’s Brody School of Medicine.

The facility, the result of years of work and millions in investment, will be a tremendous resource for the region and for North Carolina, since it will be the first of its kind here. County residents can look with anticipation on the opening, a certain landmark for this community that is now only days away.

Four years ago, the dream of founding a medical facility in Greenville to address the region’s cardiovascular needs took its most critical step. Though hopes for constructing a heart center stretch back far longer, it was then that the General Assembly approved $60 million in funding to build the new facility at East Carolina.

Lawmakers were moved by the need for such a resource in North Carolina, especially in the East. Cardiovascular disease and stroke represent the second-leading cause of death in North Carolina, and those numbers are higher in this region where smoking and high-fat diets are all too frequent. Nearly a quarter of North Carolina residents suffer from some type of heart disease.

The heart institute will be a powerful tool in addressing those health concerns. The final building, located in the city’s medical district, will be impressive. Standing six stories tall, it will have 120 beds to accommodate patients and encompass 375,000 square feet. PCMH raised $160 million for the facility, making the new center a model for public-private partnership.

That last aspect is key. This facility will aid treatment of heart disease throughout the region but will also work as an education and outreach hub to spread information about risky behavior that threatens heart health. And it further cements Pitt County’s reputation as a leader in medicine, in the region and across the state.

The hard work of so many in this community was justified by the 2004 appropriation that moved plans for this center toward bricks and mortar. Their celebration will be well deserved when the new facility opens its doors next month. It promises to be another important date in this community’s history as well as a critical resource for the people of North Carolina.
Cherry's troubles await Perdue

Abuse of patients plagues hospital

BY MICHAEL BIESECKER
AND LYNN BONNER
STAFF WRITERS

GOLDSBORO - Among all the failures of North Carolina's eight-year effort to reform its troubled mental health system, Cherry Hospital might be the worst.

Fixing the Goldsboro institution will be a key test for Gov. elect Beverly Perdue and whomever she appoints as the new secretary of health and human services.

A sprawling rural campus of brick quads and barred windows that could easily be mistaken for a prison, Cherry Hospital is the primary inpatient psychiatric institution for 36 counties in Eastern North Carolina.

Federal regulators cut off Medicaid money to the hospital in September after declaring it unsafe for patients. Jack St. Clair, Cherry's director for the past three years, resigned earlier this month, and the hospital is being run largely by a consulting firm. Cherry drew national media attention this fall after the forced release of security camera footage documenting the last day in the life of Steven H. Sabock, a patient, in April.

In the past year, at least 10 Cherry employees have been charged with assaulting or sexually abusing patients. In November, two health-care technicians were convicted of beating a patient who mouthed off. At their trial, a state prosecutor characterized Cherry as a violent place where staff members have long believed they would not be held accountable for abusing or neglecting patients.

SEE CHERRY, PAGE 7A
St. Clair, who declined to be interviewed, has portrayed the hospital's problems as more an issue of public relations than systemic shortcomings.

But after Sabock choked on medication, hit his head and was left sitting in a chair for 22 hours without food, water or medical attention, Cherry administrators sent out an urgent internal memo:

"We are a REAL HOSPITAL," it reminded the workers, pleading with them to perform routine medical tasks required of them.

Such problems are nothing new at Cherry. Sabock was at least the ninth person to die under questionable circumstances at the hospital since 2003. Eight deaths were documented by an earlier News & Observer investigation.

When St. Clair came to the hospital as director in December 2005, he had limited experience to prepare him. He had previously served nine years as director of a state home for people with Alzheimer's disease and debilitating developmental disabilities — patients very different from Cherry's.

Still, he was dismayed by the staff's lack of engagement.

"I see too many staff sitting around, appearing oblivious to their surroundings and to patient behavior," St. Clair wrote in an internal memo in 2006, two years before Sabock's neglect was captured by security cameras. "I see staff literally wandering around campus or engaged in recreational activities without patients. I see patients sitting in day rooms with staff doing nothing. I see little to no direction given to staff by supervisors.

"One of our [health care technicians] sent me correspondence that sums it up this way, "This is the only place that I know you can come and go as you please, don't work when you are here, tell your ward nurse what you are and are not going to do [without good reason], or just come in complaining." Folks, this don't get it. Supervisors must deal with this problem immediately."

Replacing Cherry

Administrators of the state Department of Health and Human Services are proceeding with plans to build a $145.5 million hospital to replace Cherry's aging campus.

A 392,000-square-foot building will be constructed at a site just down the road from the old hospital using the architectural plans drawn for Central Regional Hospital in Butner. Central Regional's opening was repeatedly delayed in the last year because of design flaws. A judge recently forbade the transfer of patients from Dorothea Dix Hospital in Raleigh to Central Regional because of safety questions.

Vicki Smith, executive director of Disability Rights North Carolina, the advocacy group that sued to delay Dix's closure, said the state should reconsider building a new mental hospital in Goldsboro.

She fears that Cherry's problems will just be transferred to the new building along with the patients and staff. She said the state should consider building a new hospital for eastern counties in a city that offers a deeper labor pool.

Since Sabock's death, administrators have hurried to squash rumors circulating around Goldsboro that Cherry would be shut down. The hospital has a major job-generator in Waync County, having employed generations of local families.

"I think there's some political pressure on political leaders to put these institutions back where they've been historically, because they provide an employment base for people who do live there," said state Rep. Verla Insko, a Chapel Hill Democrat who helps lead a legislative oversight committee on mental health.

State senators pushed hospital construction plans into the budget several years ago. In her campaign for governor, Perdue backed the position of Dix staff members that patients should not be transferred to Central Regional until all safety and staffing issues were addressed.

In an interview, Perdue said she wants to build a new hospital at the Cherry site while interest rates are low. The hospital's location in Goldsboro should not hinder the recruitment of qualified staff, Perdue said.

The key is to "pay people adequately, train them and continue to retrain them and have an administrator there who has the capacity to run a health-care institution," she said.

Low pay for employees in state mental hospitals has long been an impediment to attracting top-quality staff. Dempsey Benton, the secretary of health and human services, asked the state personnel office last summer to consider raising salaries for health-care technicians and other low-ranking positions where high turnover is common.

Becoming a health-care tech requires no special certification beyond a high school diploma or GED. Starting pay is $11.42 an hour and doesn't get much better with years of experience. About a third of those hired quit within the first year.

ECU management?

Harold Carmel, a consulting professor of psychiatry at Duke University and a critic of the state's mental health reforms, said the state should consider having East Carolina University manage the hospital and its clinical operations.

"I think it's an obvious solution that has been overlooked," he said.

Having a university manage a state hospital would be unusual for the state. Several years ago Dr. Sy Saeed, chairman of the Department of Psychiatric Medicine at ECU's medical school, proposed a more typical arrangement: having Cherry's clinical director also hold a faculty position at the school.

Close connections are good for both universities and hospitals, Saeed said. The university benefits from expanded teaching opportunities, and state hospital patients get cutting-edge treatment and high-quality care.

Any proposal to have ECU run Cherry would require close study and approval from the chancellor, Saeed said.

Whoever takes over the hospital will face monumental challenges, including figuring out how to stop beatings of patients and staff.

Larsene H. Taylor, a health-care technician at Cherry for more than 16 years, said there are plenty of good workers at Cherry ashamed by the reports of abuse and neglect at the hands of their colleagues. She has considered peeling off the sticker on her car that identifies her as a Cherry employee.

"It's embarrassing," Taylor said. "We've got some bad seeds."
The sought-after chemist invents revolutionary materials, most notably a class of nanoparticles that can take any shape. The tiny particles will likely make chemotherapy easier. In time, they might cure cancer.

By Sarah Avery • Photos by Shawn Rocco

Joe DeSimone is perfect that Joe DeSimone is a chemist. The science, founded on an ancient quest to turn rocks into gold, is fundamentally preoccupied with transformation.

So, too, is DeSimone, a chemist lauded with the highest honors and a potent force of change in North Carolina and beyond.

Since arriving at the University of North Carolina at Chapel Hill in 1990, a fresh-out-of-grad-school assistant professor, DeSimone has become one of the nation’s premier scientists — the youngest member named to the National Academy of Engineering and, last summer, winner of the $500,000 Lemelson-MIT Prize, which many consider a step to the Nobel.

Along the way, he has founded companies, led the university into entrepreneurial ventures, received more than 100 U.S. and international patents, pulled in millions of dollars in federal grants and built a research empire poised to become a major player in the emerging field of nanotechnology.

At 44, DeSimone hasn’t even hit midcareer.

“To say he is extraordinary would be an understatement,” says Erskine Bowles, president of the University of North Carolina system.

DeSimone believes in creating a research culture that fosters innovation and entrepreneurship, but also one that values collaboration and diversity. He emphasizes the importance of interdisciplinary teamwork, bringing together experts from various fields to tackle complex problems.

On the strength of DeSimone’s breakthrough, Barker said, the government agency awarded UNC-CH one of eight national centers for nanotechnology research, providing $5 million a year for five years.

It’s the kind of attention that makes DeSimone highly sought after. Keeping him from leaving North Carolina, say Bowles and others, is the academic equivalent of retaining a Dean Smith. Twice DeSimone has been wooed by top universities, and twice he has been persuaded to stay, given salary raises, promotions and other inducements.

What has held DeSimone more than anything, however, is the university’s willingness to consider change — change in the way academic science is conducted, change in how discoveries are brought to the market.

Such an approach is crucial to curing cancer, curbing global warming, creating technologies that improve the world — the things DeSimone says he wants to do.

“This is how we can solve the greatest problems of our time,” he says.

DeSimone doesn’t know his IQ, but his mental agility might rank in the freaks-of-nature category.

“He’s in the upper 1 percent of people I’ve dealt with, in terms of brilliance and importance to an institution,” said James Moeser, the former chancellor at UNC-Chapel Hill who helped craft incentive packages to keep DeSimone from leaving.

Friends and colleagues say DeSimone’s genius lies in applying complex science to solve everyday problems. It’s what caught the attention of the Lemelson-MIT Prize committee, which cited DeSimone for the breadth of his innovations — from green manufacturing to medical devices to nanomedicine — and his “unique ability to transfer his...
new opportunities. Just as the Hangers venture was winding down, DeSimone ran into an acquaintance at a party, UNC-CH alum and venture capitalist William Starling, who mentioned his work with a cardiologist at Duke. They were trying to develop a tiny coil called a vascular stent that could be implanted to deliver artery-opening drugs and then gradually dissolve as if it had never been there.

DeSimone joined the team, and soon helped make the absorbable stent act like metal to prop open a blocked artery.

"It was like a fresh, new ocean," he said. "It felt really rejuvenating to think about something other than carbon dioxide and polymers."

Within eight months, the Synecor group developed a prototype stent, tested it in animals and sold it for more than $100 million. DeSimone, who had a single-digit percentage ownership for his role in the stent's development, stands to make millions.

But that wasn't all. He got his feet wet in the fast-moving current of medical technology. He was eager to dive in.

One idea, then another

Utility is a hallmark of DeSimone's science, and he tells his students that unless something can be put to use, it's not worth much. That credo fed his creativity and led him into polymer chemistry — an area of science that had the bland veneer of practicality. Now, he was driven to figure out how his science might be applied to a whole new realm, manipulating polymers to help sick people.

"Joe believes in you so much it's scary. He makes you realize an ability in yourself you didn't know you had."

JASON ROLLAND
A CO-OWNER OF LIQUIDIA WHO HELPED DEVELOP THE PRODUCTION TECHNOLOGY FOR THE NANOPIERCLES AS A PH.D. STUDENT IN DESIMONE'S LAB

One of his lab's discoveries was a Teflon-like material that was liquid. It could be pressed into different forms, then solidified with heat or light. Once cured, it was impervious to solvents.

"It turned out to be an excellent molding material," DeSimone says. He filed for patents, and in 2003, his group used it to make tiny diagnostic tools called Lab on a Chip to help detect cancer. Previously, the tiny chips were made on expensive silicon wafers. Now they could be mass-produced on relatively cheaper plastic. That gave DeSimone other ideas.

Using an advanced printing press technique used to make computer chips, the liquid Teflon-like substance could churn out perfect molds on a tiny scale — essentially a long series of minute ice cube trays. The particles that sprang from the trays were even smaller — nanosized, one billionth of a meter. He now has 80 patents pending in the technology.

This work created an immediate stir. By mass-producing the particles in unique sizes and shapes, scientists could for the first time take advantage of geometry — an evolutionary step that had previously been nature's edge.

Now drugs could be built to mimic pollen particles, which are uniquely capable of infiltrating the lungs. Drugs could also mimic bacteria, which are savagely good at bustling into cells.

DeSimone formed a company called Liquidia to make the particles and market the technology for other uses. UNC-CH has an equity stake, and many of his former students are principals and owners.

"I felt like I had to listen," he says.

UNC, NCSU join forces

He had received other calls from prestigious ZIP codes. In 2002, Georgia Tech and the University of Florida both tendered offers. DeSimone and his wife even went house-hunting in Atlanta, but...
we don’t even have an engineering program. All the others we compete with have that."

Mooser says losing DeSimone would mean more than losing the millions of dollars he wins in grants and the massive lab complex he has built.

“When you’re talking about Joe, it’s not just an individual, but a whole heck,” he says. “In many ways, Joe DeSimone is a franchise.”

No one was prepared to lose that franchise last fall. In short order, a second retention package was put together, including another salary boost. And being named Chancellor’s Eminent Professor gives DeSimone a direct line to the chancellor on issues involving the university’s science mission.

That is of utmost importance to DeSimone. He wants the university to be more nimble in turning innovations into marketable products. And he wants to break down barriers between the different sciences. That’s been his top goal in recent months, promoting a new approach to scientific research that would basically allow science students of any discipline to conduct research across all fields.

“The idea is to have a community of scholars so we can do what can’t be done at other places,” he says.

Many embrace his approach. Others don’t. DeSimone wants to loosen scientific divisions that are as old as the university itself. In a meeting of science department heads, DeSimone makes his pitch. The head of the physics department, Laurie McNeil, expresses her department’s concerns. As it is, she says, there are fears that research decisions will be dictated by DeSimone.

“Planning has not been done with other departments,” McNeil said of the advanced materials institute DeSimone has run that would fold into the new curriculum he is advocating. “The decision-making process is ‘What Joe wants.’”

DeSimone is undeterred.

“He doesn’t give a darn that we have these departments and various structures in the university,” Chancellor Holden Thorp says, laughing. “He doesn’t allow any of that to influence what can be accomplished.

“Yeah,” he says, "that ruffles feathers.”

HOLDEN THORP
UNC-CH CHANCELLOR

pus, with two massive, arched windows that look out over the main quad. Through a third window behind his desk rises another science building in a hole once occupied by the decrepit Venable building. Down the hall are bright labs, including a clean room where his students don paper gowns and latex gloves and use custom-made tools to produce the tiny particles for testing in cancer tumors.

It’s a long way from the tiny, dark basement where he unpacked his boxes 18 years ago.

At the entrance to his new quarters are 39 of his patents arranged on wooden plaques behind plexiglass — a storyboard of innovation from a dry-cleaning process to nanoparticles. Framed newspaper and magazine articles about DeSimone line the walls above the bookshelves. Hefty glass and bronze awards fill another set of shelves.

DeSimone flips open his laptop for a slide show that demonstrates to the student, who will graduate in May with an Ivy League degree in applied mathematics, why she should consider joining his team in the chemistry department at UNC-CH.

In the world of Joe DeSimone, it’s no leap of logic for a math student to become a part of one of the nation’s top academic chemistry programs. A math Ph.D. could do work in his chemistry lab calculating how many tiny particles are necessary to inflict death in cancer cells.

Her candidacy, in fact, is exactly what DeSimone wants to promote at UNC-CH, where he envisions an army of mathematicians, biologists, engineers, physicists, physiologists and others collaborating “to solve the biggest problems of our time.”

It’s a phrase he uses over and over again. From DeSimone, a master chemist who practices an alchemy that succeeds, it’s no false promise. He has discovered how to turn ideas into solutions, and that’s as good as gold.

Extraordinary goals

DeSimone sits next to a potential Ph.D. student visiting his office in the bright, new Cauldil Labs science building at UNC-CH.

There is no finer space on cam-
Joseph M. DeSimone

PRONOUNCED: Dee-sa-MOAN
FAMILY: Wife, Suzanne; son Philip, 19; daughter Emily, 16
EDUCATION: Bachelor of science in chemistry, Ursinus College, May 1986; Ph.D. in chemistry, Virginia Polytechnic Institute and State University, May 1990
OCCUPATION: Chancellor's Eminent Professor of Chemistry at UNC-Chapel Hill; William R. Kenan Jr. Distinguished Professor of Chemical Engineering, N.C. State University; director of the Institute for Nanomedicine at UNC-CH; co-principal investigator of the Carolina Center for Cancer Nanotechnology Excellence; director of the Institute for Advanced Materials, Nanoscience and Technology at UNC-CH
SALARY: $263,000 a year, plus varying amounts from research grants and endowments
FAITH: Catholic
HOBBIES: Going to Holden Beach with his family and beating all comers in bocce; ogling classic cars that will never replace his first, a 1966 blue Dodge Dart with 340 cubic-inch small block V-8, four-speed Hurst shifter, four-barrel 750 cfm Holley carburetor and 4.11 gears in the rear. "It was fast," he says.
THRILLING MOMENTS: Flying in a Navy plane off an aircraft carrier and being aboard for a midair refueling of F-16 fighter jets—opportunities afforded during his participation in the Defense Science Study Group
INDULGENCE: A Cadillac XLR, which he bought to replace a red Corvette. He's big on American car models, since his brother, an electrician, is in a union.
FAVORITE SAYING: "Represent the family well," which he says to his children as they leave the house.
INSPIRATION: His younger sister, who battled cancer a few years ago, serves as a motivation to find a cure for the disease.
HONORS: 2008 Lemelson-MIT Prize for Invention and Innovation; 2008 inductee into the Order of the Golden Fleece, an honor society at UNC-CH; fellow in the American Association for the Advancement of Science, 2006; member, National Academy of Engineering, 2005; member, National Academy of Arts and Sciences, 2005