President's Message
By Evelyn Lyons

As I write this, it is during the immediate aftermath of the Katrina Hurricane. Obviously the rebuilding process and addressing the needs of the disaster survivors will take much time and enormous resources. Although saddened by the tragic loss of life and tremendous destruction that has occurred, it has been incredibly encouraging to see the outpouring of assistance from within our state by emergency nurses. Almost immediately, Illinois emergency nurses wanted to know how they could help, and began to pitch in. Emergency nurses who are members of the Illinois Medical Emergency Response Team (IMERT) were deployed to the disaster site as requested by the Federal Emergency Management Agency (FEMA). Illinois emergency nurses also volunteered to staff the federal emergency medical shelters that were developed in various sites across the country, manned phones at the Illinois College of Emergency Physicians (ICEP) office as IMERT members were recruited for deployment, donated to various assistance agencies, and made countless other types of contributions.

Illinois emergency nurses rose to the occasion, and your compassion, generosity and volunteerism were much appreciated. This is expressed in an email that I received from Amber Kyle (Mississippi ENA President-Elect), in which she said:

“Evelyn, I can’t begin to tell what it means to receive an email from you. These words of encouragement and compassion are treasured. Please let those that are serving as volunteers know that we greatly appreciate their time from work and their families. We covet your prayers......Please know I will do my best to share your words of comfort with the other members of our state ENA chapter.”

God Bless You All,
Amber

Amber Kyle, RN, Trauma Program Manager, University of Mississippi Medical Center

There will be lessons that we will learn from this event and opportunities for enhancing our state, local and individual hospital disaster plans. In addition, this is an opportunity to emphasize the need for emergency preparedness to patients, families and our communities. Emergency preparedness should be a priority of every citizen. Every family should develop a family communications plan, make an emergency supply kit and be better informed as to the types of emergencies that can happen. Some websites are listed below that can help families and communities in being better prepared in an emergency/disaster event.

- American Red Cross: www.redcross.org
- Centers for Disease Control: www.cdc.gov
- Federal Emergency Management Agency:
  www.fema.gov
- Illinois Department of Public Health:
  www.idph.state.il.us/pdf/SurvivingDisasters.pdf

If your hospital provides community outreach education, consider conducting presentations that address emergency/disaster preparedness. Work with your POD hospital to identify community needs. In addition, consider making resources from the agencies listed above available in your emergency department and other areas within your hospital.

As always, thank you for your ongoing efforts and the commitment you show to your patients and to emergency nursing.

Important Announcements
By Barb Weintraub

Election results are in, and the winners are…
Envelope please…

Our next President-elect: Cheryl Vinikoor
Our next Treasurer-elect: Elisabeth Weber
Our next Director: Vicky Goeddeke

Congratulations to all, and a special thanks to all who voted and took the time to make a difference in both ENA and the lives of our Illinois E.D. nurses!
The former Chief of EMS and Highway Safety in Illinois, Leslee Stein-Spencer, was honored at the Illinois Council ENA’s annual awards ceremony for her personal dedication and commitment to Illinois Emergency Medical Services. THANK YOU, LESLEE!

Robin Mazzuca was featured in the August issue of Exceptional Nurse. Congratulations Robin!

ENPA 2005 Delegates to the General Assembly in Nashville
Thanks for helping frame the future of ENA!!!
Teri Campbell • Rebecca Steinmann
Elisabeth Weber • Thelma Kuska
Penny Hurley • Joanne Mitchell
Amy Vahrenwald • Zeb Koran
Darcy Egging • Julie Bracken
Eleanor E. Sniegoski
Cheryl Vinikoor • Harriet Hawkins
Jennifer Cook • Vicky Goeddeke
Kimberly Budil • Merri Lazenby
Kim Marie C. Macygin
Deborah Smith • Kathleen Richmond
Carole Reif • Vicki Keough
Kathy Koch • Bonnie Salvetti

Archives Corner
By Kathleen Richmond

Did you know the Illinois State Council ENA used to be made up of local chapters? Prior to the first Blue Ribbon Commission, Illinois ENA (or EDNA, as we were known) members were assigned to a chapter in the state. Members could choose to join the chapter corresponding with their home or work location. Chapters had officers and bylaws, and held regular meetings. Chapters received a dues assessment of $2 per member from national ENA. Chapters presented educational programs and seminars.

Those of us who were active chapter members were likely to be state officers and committee members, as well. Yes, we saw ourselves coming and going!

My chapter was the South West Area Chapter, which included members from the southwest side of Chicago and the southwest suburbs. In 1977, the state’s chartered chapters were Chicago News, Fox-Plaines, Greater Northwest, Iowa-Illinois Quad Cities, South West Area, Illinois Valley and Windy City.


Chapters who wished to continue meeting became special interest groups (SIGS).

My chapter continued to meet regularly for a few years as an informal social group, sharing information and camaraderie. It was hard to give up the old ties! We eventually did though – I volunteered to keep “all the old stuff” from the chapter, and this blossomed into my archive role with the state council.

If you have an interest in the history of our state council, or have any items pertinent to those “good old days”, please contact me by email, RichmondK8@aol.com.

Remember! “We can’t know where we’re going, unless we know where we’ve been.”

Board Meeting Highlights
By Merri Lazenby
State Council Meeting 08/13/05

The most recent state council meeting was held at Northwest Community Hospital in Arlington Heights and attended by a record 27 emergency department nurses! Information was shared and below is a brief synopsis of the “happenings” at the meeting:

Current Issues in Emergency Nursing discussed include:
- The new GENE course offered by ENA to educate nurses about geriatric nursing.
- The use of the ICE acronym in cell phone directories in case of emergency.
- The shift of focus for the CDC from biological to trauma education for terrorism preparedness.
- How proposed changes in the licensure process for foreign nurses might change.
- The nursing shortage and how to
Some important and exciting news:
• Our financial status is current and complete thanks to the hard work of Treasurer Sharon Chesney.
• The upcoming National ENA General Assembly and Scientific Assembly are in September. We have a full compliment of delegates and alternates to serve at the General Assembly.
• A new and improved ENCARE program was developed and will be unveiled at the ENA National Scientific Assembly. Current statistics show more ED nurses are participating in the injury prevention.

Our next state council meeting will be held at the Schaumburg Marriott on November 5th, 2005 at 0900. All ENA members/nonmembers are welcome!

INVENT
By Barb Weintraub

Great news!
We have hired a permanent INVENT administrator! I am proud to announce that Mary Connelly, RN, has taken the position and is off and running!

Take a look at our homepage, www.inventRN.org to see the new information posted. We will be planning new courses and posting them on the website.

Thanks so much for your patience during this transition time; we appreciate you sticking with us. With Mary on board, we’re on our way!

Mary will be working out of the ICEP/IMERT headquarters in Oakbrook Terrace. You can contact Mary at 630-495-6400, x203, or MarcyC@IMERT.org.

Leadership Luncheon
By Barb Weintraub

Our annual Leadership Symposium is scheduled for November 4th, at the Marriott in Schaumburg. We have a great program planned, and invite you and all of your E.D. leadership staff to attend.

Our November State Council meeting is scheduled for Saturday, November 5th, at the Schaumburg Marriott. We’d love for you to meet us in person and to join us as we work to make a difference in the lives of emergency nurses!

Program brochures will be mailed out in the next few weeks, and also be available on our website, at www.IllinoisENA.org.

As a matter of fact, while you’re enriching yourselves, think about the other ENA educational opportunities this weekend!

ENA's Key Concepts in Emergency Department Management.
November 6-7, 2005 - Chicago, Ill.
Sunday, November 6th, 8:00am-5:00pm
Monday, November 7th, 8:00am-5:00pm
Embassy Suites Hotel O’Hare
5500 North River Road
Rosemont, IL 60018
$109 per night • 847-678-4000
Reserve your room by October 14, 2005, by calling the hotel directly.

This is a GREAT program, well worth the time, and worth 16 CECH!

See the ENA website for details and registration information.

Scholarships are available from Monster.com. Information on this is also available at www.ENA.org.

Also this weekend, (can you believe your good luck?) is the GENE (Geriatric Emergency Nursing Education) Course, also at the Embassy Suites in Rosemont.

Geriatric Emergency Nursing Education Course
November 5, 2005 - Chicago, Ill.
Saturday, November 5th, 8:00am-5:00pm
Embassy Suites Hotel O’Hare
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Rosemont, IL 60018
$109 per night • 847-678-4000
Reserve your room by October 14, 2005, by calling the hotel directly.

This is also a wonderful program, geared towards helping us understand that population which comprises by far the largest segment of our ED patients, the geriatric patient. And…you get 8 CECH! Bonus!

Registration information is also found at www.ENA.org.

EMS Updates
Submitted by Annie Moy

National EMS Scope of Practice Model Update

The purpose of the National EMS Scope of Practice Model is to provide a common foundation for States to use in establishing EMS scope of practice laws or administrative regulations. Additionally this document is intended to provide a basis for the development of National EMS Education Standards and National EMS Certification examinations.

On April 11, 2005 the National EMS Scope of Practice Model Draft 2.0 was released. This revised version incorporated comments from many major national EMS organizations and others on the earlier version (Draft 1.0) of this document. Draft 2.0 was open for comment until June 1, 2005. Major highlights of changes to this document include:
1. Need to retain an EMT with a skill set comparable to that of the 1994 EMT-Basic
2. Need to retain a level between the EMT and Paramedic (proposed to be titled as an Advanced EMT)
3. Maintenance of both certificate and degree programs in Paramedic Training
4. Proposed Advance Practice Paramedic (APP). A wide array of com-
ments was received on this section. Some were supportive of this visionary concept and others saw no need for a creation of this type of provider or felt it would not be feasible or affordable. Because of this diverse feedback the Scope of Practice Task Force elected to put further development of this level on hold until it can be afforded thoughtful attention and comment from the EMS, public health, medical, allied health and nursing communities.

On June 13th and 14th a National Review Team (NRT) met in the Washington, DC area to review the comments received and provide a forum for additional comments from invited individuals and organizations. A revised document is expected in the near future.

The current draft 2.0 can be accessed at www.emsscopeofpractice.org.

SILENT AUCTION NETS $3,337.00 FOR ENAF AT SPRING SYMPOSIUM

By Kathleen Richmond

Thanks to the generosity of our members, families and friends, $3,337.00 was raised for the Emergency Nurses Foundation during this year’s Silent Auction. This annual event is held at our Networking Dinner prior to Spring Symposium, and includes a 50/50 Raffle.

Thanks to all of you who contributed donation items and/or bid at the auction.

Donations to the Emergency Nurses Foundation directly benefit emergency nurses, emergency patients, and the public through the support of: emergency nursing research, the promotion of public education regarding prevention of illness and injury, and the awarding of undergraduate, advanced practice and doctoral scholarships. As coordinator of the auction, I want to recognize those generous individuals and Illinois Council Committees who donated auction items, and are directly responsible for the huge success of this fundraising event.

Thank you to Illinois Council members: Evelyn Lyons, Sharon Chesney, Barb Bollenberg, Jan Gillespie, Karen Hamick, Julie Bracken, Regina Bracken, Darcy Egging, Penny Hurley, Joanne Mitchell, Kathleen Richmond, Diane Rogel, Elaine Sniegowski, Mary Ellen Burfield, Laura Tucco, Rebecca Steinmann, and Barb Weintraub for the numerous jewelry pieces, handknit silk scarves, gift baskets, porcelain collector dolls, nursing collectibles, lithographs, and vintage items. A special thank you to Penny Hurley who donated her winnings from the 50/50 raffle back to the Silent Auction proceeds.

Thank you to the Illinois Council Education Committee, Pediatrics Committee, Injury Prevention Committee, Trauma Committee, and Membership Committee for the outstanding gift baskets.

Thank you to ENA Director Polly Gerber Zimmerman who donated a wonderful gift basket for the auction.

Thank you to Peter & Vanessa D’Amico, owners of WineStyles of Frankfort, for their generous donation of a wine tasting party gift certificate. Visit them in person at 20290 South LaGrange Road, online at: www.winestyles.net/frankfort or call 815-469-9994 to find out more about wine selections, wine classes, gifts and gift baskets.

Thank you to friends of ENA: Dr. Steve Adams for donating Chicago Cubs tickets, Ginny McCollum for donating a vintage set of Public Health Nursing Journals, and Joe and Sarah D’Amico for numerous items donated.

Lastly, it’s not too early to be thinking of next year’s Silent Auction event. Please contact me if you can help by donating an item, or if you know of a business or organization willing to contribute. My e-mail is:

RichmondK8@aol.com or you can phone me at 708-687-6044.

Education Committee

By Karen Hamick

It’s hard to believe that fall is officially here despite the extended warm weather. The Education Committee is busy planning our annual fall trauma seminar and we hope to see all of you there on November 18! St. Alexis is our host site and we will have speakers on elder abuse, managing sports injuries, managing fluids in the trauma patient, and trauma injuries in the battlefield: Experiences in Afghanistan.

The Education Committee is also planning our education calendar for 2006. We are interested in hearing your program suggestions and thoughts about how we can best serve Illinois ENA members. Please e-mail Karen Hamick at karenhamick@sbcglobal.net as soon as possible.

We welcome Chery Lorenzin, CNS Delnor ED and Gerald Cholewa, Director, ED and Ambulatory Services Holy Cross Hospital to our group. New members always welcome to join our group. Contact Karen Hamick at the above email.

Web Site News

By Kathleen Richmond

Look for the latest addition to www.illinoisENA.org -- a “Job Opportunities” page! As a service to our membership, the Illinois Council will be posting nursing-related job positions on our web site. The web site committee will review potential postings for content and professional relevance. Approved postings will be given space for up to thirty days. The service is offered free of charge. Your feedback is welcome. Contact the web site coordinator by email webmaster@illinoisENA.org. See you on the web.

Illinois ENA Evidence Based Practice Committee

By Vicki Keough

ANNOUNCES A NEW CONTEST
Research and Practice Innovations

The Illinois ENA Evidence Based Practice Committee invites you to enter a contest centered on “Research and Practice Innovations”: Four Projects will be chosen to win $400
Annual Spring Symposium

By Cheryl Vinikoor

The Spring Symposium committee is actively planning the 2006 program. We were so pleased at the attendance on April 29, 2005. The feedback we obtained from you was very positive. We appreciate the evaluations, which help us with planning for the following year.

The board encouraged and supported the development of a two-day program which allows us to offer eight hour courses on the first day and then a full day of presentations providing CECH for the ECRN certifications, and trauma/pediatric certifications.

The environment can be just as important to us as those credits. It is very energizing to spend a day of networking with other ED nurses who can acknowledge one another for their specialized clinical expertise. Our clinical setting only allows us a very short time to identify and treat major/minor illnesses and injuries in a compassionate manner, respecting human dignity and individual uniqueness. The patient is not “packaged” when they arrive. They come with all kinds of preconceptions and experiences. And it takes high energy and the ability to multitask, to work in an environment that can be quiet one minute and unpredictably crazy the next. We do love that adrenaline rush!

In our planning for the annual program, we bring in experts in the field of trauma and disaster, forensics, pediatrics, and up to date information on research and evidence based practice. But we also do have fun planning the Networking and Awards Dinner. We intentionally start the festivities right after the pre-session classes end. You do not have to attend any of the educational programs to come to the dinner. This is an opportunity to network with ED nurses from around the state and many now coming from surrounding states. If you cannot attend the educational sessions, just RSVP for the dinner. We want you to be there! The silent auction is always fun and the proceeds are for emergency nurse scholarships. The board also has an opportunity during the dinner to acknowledge the efforts of ED nurses in the state who make special contributions. During the dinner April 28, 2005, Illinois ENA acknowledged the contributions of Leslee Stein-Spencer. She was often our voice on the state level during planning that directly affected the emergency nurse, and the emergency patient.

The 32nd Annual Illinois State Council ENA Spring Symposium is May 4-5 2006, at the Marriott Oak Brook. We cordially invite you to attend. Reminder cards to “Save the Date” will be in the mail in a few months. We will be offering a new instructor course for ENPC and TNCC, as well as other pre-session programs on Thursday. Consider staying at the Marriott Thursday night after the dinner. We have a great hotel rate again, $89.00 and you can join us in the morning in the Grand Ballroom for coffee. We look forward to seeing you there.

For information contact cvinikoor@comcast.net and/or the web page www.illinoisENA.org

Injury Prevention Committee

By Thelma Kuska

By the time you receive this newsletter, the new EN CARE high school presentation would have been introduced to the Scientific Assembly held at the Opryland Convention Center in Nashville, TN. For those of you who attended the annual meeting, I hope that you liked the new slide presentation. For the active EN CARE providers, the new slide presentation available in CD only will be made available to you free of charge. Of course, you still have the option of using the “old” slide presentations providing you with a variety of presentation options.

The Injury Prevention Institute/EN CARE also has a new educational offering called Advancing Injury Prevention in Your Community, comprised of eight modules. They are:

- Module I: Introduction
- Module II: Biomechanics and Epidemiology
- Module III: Prevention and Protection
- Module IV: Program Planning, Implementation and Evaluation
- Module V: Community Outreach and Advocacy
- Module VI: Funding Opportunities and Grant Writing
- Module VII: Injury Prevention Institute Policies and Procedures
- Module VIII: Program Modules

This course is being offered as a pre-session at the annual meeting. Based on comments from the over 150 registrants to the course, revisions will be done so that courses can start to be offered early next year.

The EN CARE Provider training is also being revised by the National Injury
Prevention Committee. We hope to finish that revision by next year. In the meantime, the training will continue using the old training manual.

If you have any questions about EN CARE and how to become a provider, please send an email to Thelma Kuska at thelmakuska@comcast.net or you can call 708/361-8677.

NIH News Release
April 5, 2005

ALLHAT Study Findings for Racial Sub-groups Show Diuretics Work Better than Newer Medicines for High Blood Pressure

Diuretics work better than newer therapies in treating high blood pressure and reducing risk of heart disease in both black and non-black patients, according to a long-term, multicenter trial of antihypertensive therapies funded by the National Heart, Lung, and Blood Institute of the National Institutes of Health. This analysis by race confirms earlier findings on the effectiveness of diuretics and emphasizes that diuretics should be preferred as a first therapy for most patients with high blood pressure.

Findings of the analysis by race of the "Antihypertensive and Lipid-Lowering Treatment to Prevent Heart Attack Trial," or ALLHAT, appears in the April 6, 2005, issue of The Journal of the American Medical Association. ALLHAT is the first large-scale trial—with 33,357 participants—to compare diuretics, calcium channel blockers, and ACE inhibitors as initial therapies in a population with a substantial number of black participants.

The study concludes that diuretics are either similar or superior to newer drugs in lowering blood pressure, in tolerability, and in preventing the major complications from high blood pressure. Across both racial subgroups, there was substantially higher risk of heart failure—37 percent—among participants taking calcium channel blockers compared with those on diuretics. When compared with ACE inhibitors, diuretics were more effective in preventing cardiovascular disease, especially heart failure, for all participants and significantly more effective in reducing high blood pressure and preventing stroke in blacks. Based on this study finding, the authors conclude that as the initial drug for treating high blood pressure, ACE inhibitors work less well than alternatives in black patients.

“This analysis confirms and extends to all races ALLHAT’s original conclusion that diuretics are the right first-line therapy for high blood pressure. While some other recent studies have evaluated newer therapies (including drug combinations), the weight of evidence, particularly in this multi-racial study, supports the diuretic recommendation,” said Dr. Jeffrey Cutler, NHLBI Senior Analyst and study co-author.

High blood pressure affects about 65 million Americans, or one in four adults, and its prevalence increases with age — more than half of those over age 60 have hypertension. High blood pressure is a risk factor for heart disease and the chief risk factor for heart failure and stroke.

The multi-center ALLHAT study is conducted under a contract with the University of Texas Health Science Center at Houston; Dr. Barry Davis is the Principal Investigator and study co-author.

Current blood pressure control recommendations are provided in The Seventh Report of the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure, issued by the NHLBI’s National High Blood Pressure Education Program in 2003. The report is available online at:


NHLBI is part of the National Institutes of Health (NIH), the Federal Government’s primary agency for biomedical and behavioral research. NIH is a component of the U.S. Department of Health and Human Services. NHLBI press releases and other materials including information about high blood pressure and heart disease, are available online at http://www.nhlbi.nih.gov.

NIH News Release
April 21, 2005

New Study Shows Antibiotic Treatment Does Not Reduce Risk of Secondary Cardiac Events

Taking antibiotics weekly for one year does not reduce the risk of a heart attack or other cardiac event for patients with stable coronary artery disease, according to a study funded by the National Heart, Lung, and Blood Institute of the National Institutes of Health. It is published in the April 21, 2005, edition of the New England Journal of Medicine.

Many previous studies have found the bacteria Chlamydia pneumoniae in the arterial plaque of patients with coronary artery disease. This led to the investigation of whether antibiotics could be used to treat the bacteria and therefore reduce the risk of cardiac events. Approximately 50 percent of U.S. adults have been exposed to C. pneumoniae at some point in their lives. It spreads through the air and can cause pneumonia. "This study found no benefit from treating the C. pneumoniae bacteria with antibiotic in order to reduce the risk of heart attack or improve overall cardiac outcomes." said NHLBI Director Elizabeth G. Nabel, MD "We must continue to focus on the controllable risk factors for preventing coronary events."

ACES researchers randomly assigned 4,012 men and women to receive either once-weekly doses of azithromycin or placebo for one year. After an average follow-up of 3.9 years, there was no significant reduction of cardiac events, defined as death, heart attack, unstable angina, angioplasty or cardiac surgery, among participants receiving antibiotic compared to those given placebo. This lack of effect of antibiotic was shown for all participants regardless of age, gender, smoking status, or presence of C. pneumoniae antibody. The antibiotic treatment also had no affect on total mortality or on incidence of stroke.

Men and women were included in the study if they had stable coronary artery disease following a previous cardiac event such as a heart attack, angioplasty, or cardiac bypass surgery.
Azithromycin was selected because of its proven effectiveness against the C. pneumoniae bacteria and for its once-weekly dosing. ACES enrolled men and women at 28 centers across the country between 1999 and 2000. Pfizer, Inc. co-sponsored the study and supplied study medications.

"Although antibiotic treatment of patients with clinical coronary heart disease is not helpful, the ACES study was not designed to find the role of C. pneumoniae in the cause or progression of coronary heart disease. Different studies will be needed to determine the role of C. pneumoniae in the early, asymptomatic development of coronary heart disease," said J. Thomas Grayston, M.D, Professor of Epidemiology, University of Washington, Seattle, the study’s principal investigator.

The ACES results are confirmed and extended by the similarly negative findings of the PROVE-IT trial published in the same issue of the New England Journal of Medicine. PROVE-IT tested a different antibiotic, a fluoroquinolone, and used a different treatment schedule with participants who were somewhat younger than those in ACES and who had an acute cardiac event at time of their enrollment in the study.

NHLBI is part of the National Institutes of Health (NIH), the Federal Government’s primary agency for biomedical and behavioral research. NIH is a component of the U.S. Department of Health and Human Services. NHLBI press releases and other materials including information about heart disease, heart attack, and coronary artery disease are online at http://www.nhlbi.nih.gov.

NIH News Release
May 18, 2005

New Kidney Function Test Better than Standard at Predicting Death and Cardiovascular Outcomes

Cystatin-C, a new blood test for kidney function, is a better predictor of death and cardiovascular risk among the elderly than the standard measure of kidney function, according to a National Heart, Lung, and Blood Institute (NHLBI)-funded study published in the May 19 issue of the New England Journal of Medicine. This more sensitive test distinguishes those at low, medium and high cardiovascular risk, which may enable earlier detection.

Investigators for NHLBI’s Cardiovascular Health Study compared the two measures of kidney function, cystatin-C and the standard test creatinine, as predictors of death from all causes, death from cardiovascular causes, and incidence of heart attack and stroke among 4,637 elderly participants in the study.

The 20 percent of the participants with the highest levels of cystatin-C had twice the risk of death from all causes as well as death from cardiovascular disease, and a 50 percent higher risk of heart attack and stroke compared with those who had the lowest levels of cystatin-C. In contrast, testing the same participants with creatinine detected a smaller high-risk group—about 10 percent of the participants—and all others appeared to be at average risk.

With cystatin-C, investigators found that 60 percent had abnormal kidney function putting them at medium or high risk for cardiovascular complications.

It is estimated that 20 million Americans have significantly reduced kidney function, and that even a small loss of kidney function can double a person’s risk of developing cardiovascular disease.

"This study affirms the important link between kidney function and cardiovascular health and survival in the elderly. If these findings are confirmed in other studies, cystatin-C could be a useful prognostic tool for evaluating older people at risk for not only kidney disease, but cardiovascular disease as well," said Elizabeth G. Nabel, MD, NHLBI director.

The standard evaluation of kidney function is an estimate of the kidney’s rate of filtration—called the glomerular filtration rate (GFR)—based on measurement of creatinine in the blood and a further calculation based on a patient’s age, gender and race. Measurement of cystatin-C in the blood also appears to reflect the GFR, but does not require an additional calculation. Both creatinine and cystatin-C are proteins found in the blood and filtered through the kidneys. When the kidneys are not working well, these proteins accumulate in the blood, which provides a signal to the doctor that a person may have kidney disease.

Because creatinine is a by-product of muscle cells, its levels in the blood can be affected by factors other than kidney disease, like age, gender, race, and lean muscle mass. Cystatin-C is produced by blood cells, and age, gender, race, or lean muscle mass does not impact its level in the blood.

Cystatin-C is FDA-approved for diagnostic use, but the test is not yet widely available or commonly used in clinical settings. This and other studies have shown that cystatin-C may detect moderate kidney disease at earlier stages, before creatinine levels would rise, enabling identification of a much larger group of people at risk for death and cardiovascular complications.

"Our results show that a normal creatinine is not nearly as reassuring as we used to believe. In persons at a high risk for kidney disease, such as an older person or one with diabetes, hypertension, or cardiovascular disease, a normal creatinine level may be misleading us into thinking that the patient is safe from the cardiovascular effects of kidney disease," said the study’s lead author Michael Shlipak, MD M.P.H, of University of California at San Francisco.

Dr. Shlipak noted that additional research is needed to determine the exact clinical role for this test, but that it may be most useful in high-risk patients with normal creatinine. Evaluating the mechanisms that underlie this strong association between the kidney and cardiovascular disease would be critical for targeting prevention efforts, he said.

Participants in the Cardiovascular Health Study were aged 65 or older at baseline. Their creatinine and cystatin-C measures were taken in 1992 or 1993 and the average follow-up period was 7.4 years. The study sites were Forsyth County, North Carolina, Sacramento County, California, Washington County, Maryland and the city of Pittsburgh.

Study co-authors are supported by grants from the National Institute of Diabetes and Digestive and Kidney Diseases.

NHLBI is part of the National Institutes of Health (NIH), the Federal Government’s primary agency for biomedical and behavioral research. NIH is a component of the U.S. Department of Health and Human Services. Additional information about cardiovascular disease and other NHLBI-supported research and educational programs are available online at the NHLBI website, http://www.nhlbi.nih.gov.
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