



BLUE & GOLD TRIANGLE

FALL 1999

L A M B D A K A P P A S I G M A

International Pharmacy Fraternity

"Promoting the Profession of Pharmacy Since 1913"

REGIONAL MEETINGS 1999

The 1999 Regional Meetings were held this summer in Toledo and Boston. Over 100 Lambda Kappa Sigma members attended the two day meetings hosted by Alpha Mu and Alpha Chapters. On Friday the attendees participated in three Fraternity workshops: chapter management, how to plan a CE program and Marketing LKS. The chapter management workshop broke everyone down into groups where we learned how to organize a meeting and work on committees. The How to Plan a CE program taught us how to properly plan a professional program and what requirements are needed to plan and execute a continuing education program. The Marketing LKS workshop is a series of programs that are presented at each Regional and Convention. This interactive workshop guided members on how to plan a packet to give to new members at the beginning of orientation. A pizza party hosted by the host chapters followed the workshops. After dinner many members headed towards Lansdown Street to catch a Red Sox game or a fun evening at Jillian's in Boston. In Toledo the members went bowling and then had dinner at Friday's.

Saturday morning we were treated to a continental breakfast and Fraternity and Chapter reports. Grand President Christine Perry presented an Interviewing Techniques workshop to the membership. Grand Vice President for Development Sharon Brown was the speaker for our CE program on Women's Health in the areas of Obesity and Cardiovascular Disease in Boston and Regional Supervisor Marijo Kraisinger presented a CE program on Immunization in Toledo. At the Awards Luncheon three awards were presented. The Vanguard Award to Ruth Demar, The Young Pharmacist of the Year Award to Linda Clark and the Advisor of the Year Award to Christine Perry. After lunch the membership attended a Career Opportunity Panel. This outstanding program featured LKS members with diverse backgrounds who shared their wisdom on how they achieved their objectives and career goals. The afternoon wrapped up with the collegiate and alumni conferences and goal setting for the 2000-2002 biennium.

It was clear from the comments and evaluations that all members had a wonderful time attending the Regional Meeting. All members in attendance pledged their support to attend the Convention in Houston next summer. We look forward to seeing you there.

Look Inside for:

One Hour Continuing Education Article

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Above: AB collegiates and alums at Boston Regional Meeting, 1999.

Below: Attendees at Christine's seminar on successful interviewing at Boston Regional Meeting, 1999.



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The Blue & Gold Triangle is the official publication of Lambda Kappa Sigma Pharmacy Fraternity, and is published semi-annually by:

Editor

Nancy Horst
20110 Glenoaks Drive
Brookfield, Wisconsin 53045
Phone: (800) LKS-1913

E-Mail: lks@lks.org Web: www.lks.org

Editorial Advisory Committee

Nancy Horst, Chair
Michelle Albala
Frances Curran
Marilyn Harris
Christine Perry
Joan Rogala



FROM THE INTERNATIONAL OFFICE

From the Executive Director:

Greetings from Wisconsin! For those of you who haven't heard the news, the LKS International Office has relocated to Brookfield, Wisconsin (a suburb of Milwaukee). The reason for the move? The story is one that I am proud to share - and thank you in advance for allowing me to indulge.

I have had the privilege of working for LKS since 1994. When my husband was recently offered a promotion (which required a relocation) I was touched, and thrilled, when the leadership of LKS agreed to relocate the IO so that I could remain the fraternity's Executive Director. The move took place in June and we have long-since settled in comfortably (aren't new beginnings great!). The support and confidence that this organization has shown me is beyond what one would reasonably expect. For this, I extend my sincere appreciation and my continued pledge to serve the members of LKS to the best of my ability.

Here's where we can be reached: LKS International Office
20110 Glenoaks Drive
Brookfield WI 53045
Phone: (800)LKS-1913
Fax: (262)784-8406
E-Mail: lks@lks.org

Not only do we have a new home, but a new home page too! Check out the new LKS web site at www.lks.org. Even though it is still under construction, it's looking good these days with new information and services available. Our thanks to Jennifer Rhodes, our webmaster, and her husband, Dusty, for all of their hard work.

Warm regards for a safe and wonderful holiday season.

Until next time...

Joan E. Rogala, CAE - LKS Executive Director

DEADLINES & UPCOMING EVENTS

January 15	Announcement of Educational Grant Recipients
February 15th	Deadline for Blue & Gold Triangle articles and chapter news
March 1st	Proposed By-Laws Amendments for Convention consideration sent to all chapters Grand Council election ballots due Deadline for Students for Progress
March	APhA Annual Meeting (LKS Booth and Reception)
March 15th	Hygeia Day celebrated by presenting a professional program open to the public
March 31st	Grand Council ballots counted and candidates notified
April 1st	Deadline for the payment of Alumni Dues
April 30th	Deadline for nomination for the following LKS awards: Vanguard, Distinguished Young Pharmacist, Award of Merit, and Distinguished Service Citation
May 15th	Deadline for submitting Convention Delegate Credentials to the IO
June 1st	Deadline for submitting all financial obligations, initiation fees, master member input sheets, officer roster, and annual history reports



Christine M. Perry, RPh

Grand President
Fairhaven, MA

Dear Lambda Kappa Sigma Members:

The summer was a busy time of year for LKS as we held our Regional Meetings in Boston and Toledo. Thanks to Alpha Collegiate and Alumni Chapters and Alpha Mu Chapter for hosting us this summer. I would also like to recognize the efforts of all members of Grand Council for planning and executing a great meeting. Thanks to presenters Sharon Brown and Marijo Kraisinger for their Women's Health Issues Programs and Mary Gear for providing the CE accreditation. Thanks to all the alumni and collegiate members who attended and made the Regionals' a huge success. The meeting was truly a team effort.

I was incredibly excited to receive my copy of the membership directory. Harris Publishing did a phenomenal job putting the directory together. Over the past month I have reconnected with many LKS members I went to school with or met at past Regional Meetings and Conventions. We have caught up on job promotions, new additions to our families and sharing news on each other's success. The IO is currently in the process of updating our database with over 2000 email addresses. Once complete we will be sending you LKS updates and information over the net. This is a very exciting advancement for LKS as we will be able to increase our communications to you. I encourage everyone to contact me at HYPERLINK mail to: CMPERRYRPH@AOL.COM.

In October the Grand Council met at my home in Massachusetts for our Interim Meeting. During the three day meeting we conducted the business of the Fraternity, reviewed collegiate and alumni programs and finalized plans for the 2000 convention in Houston. The convention will be held at the Marriott Hotel. The hotel is at the center of the Galleria, which offers over 100 shops and restaurants. The highlights of the meeting you can look forward to are the opening reception, accredited Women's Health Issues programs, Educational Trust Luncheon, collegiate and alumni conferences, auctions of LKS, lamb and pharmacy paraphernalia and the Final Banquet. There will also be plenty of time for socializing, networking and site seeing in Houston. We are hoping for over 200 members to attend the meeting in 2000 to launch LKS into the next millennium. Mark your calendars now for August 1-5, 2000 for a great meeting in Houston.

November is Educational Trust Month and we have started the Annual Appeal. Grand Council together with the Trust Liaison Committee asks you to contribute to the Trust. LKS offers one of the best scholarship programs of all the pharmacy fraternities and we must dedicate ourselves to preserving and expanding this great membership benefit. This year LKS will award the first Adele Lowe Grant. This Grant honors the memory of Adele who was a past Grand President and Chairman of the TLC for many years. Adele's vision for a scholarship program and dedication to this goal helped to build the Educational Trust. Please give to Trust so we may continue to support the dreams and aspirations of our young members.

LKS will once again be present at the ASHP and APhA meetings this year. If you are attending please stop by our booth in the exhibit hall and reception at the APhA meeting.

Many of our collegiate chapters have begun their rush and orientation programs. This is a wonderful time of year for our Fraternity as we welcome new members into our organization. Congratulations to our new members and welcome to Lambda Kappa Sigma. The best Fraternity filled with friendship, sisterhood and all the opportunities you could ask for. Take advantage of all the membership benefits we offer.

Fraternally,

Christine M. Perry
Christine Perry, R.Ph.
Grand President



FEATURING FRATERNITY AWARD WINNERS

by Nancy Horst
Past Grand President

1999 MERCK VANGUARD AWARD

Ruth Demar has been awarded the Vanguard Leadership Award for 1999, for "pharmacists who have made sustained exemplary contributions in their areas of practice, in professional associations, regulatory bodies and in their communities, emphasizing service to others, innovations and entrepreneurial spirit."

Ruth was nominated for this award because of the diversity of her professional endeavors. She has worked in community pharmacy, hospital pharmacy, nuclear pharmacy, home health care, HMO-based pharmacy and consulting. She is also very active in pharmacy organizations including Lambda Kappa Sigma and the Arizona Pharmacists Association. Recently she has become an instructor and preceptor at the Midwestern University College of Pharmacy-Glendale.

Her BS in Pharmacy degree was earned at the University of Pittsburgh, where she was initiated into Delta Chapter. She worked in community and hospital pharmacies in Pennsylvania until 1983, when she moved to Arizona. Ruth and her husband John have a 15 year old daughter and a 9 year old son and live in Phoenix. Family centered/community activities include the school council, updating teachers on ADHD (attention deficit/hyperactivity disorder), being a Girl Scout mom and cookie chairman, and serving her church on the Finance Committee and the Administrative Council.

Additional education includes a hospital pharmacy residency in Minnesota, a certificate in Nuclear Pharmacy and Krannert Executive Education Program, both at Purdue University, and Consultant Pharmacist training through the American Society of Consultant Pharmacists.

For Lambda Kappa Sigma, Ruth has been a Regional Supervisor and President of the Phoenix Metro Chapter, as well as serving on several committees. Those of you who have been to Convention know that Ruth always helps to sell the Fraternity jewelry, has been a teller, and is the "Vanna White" of our auctions, showcasing the items for bids.

In the Arizona Pharmacists Association, Ruth has held the offices of County Representative, Treasurer, Second Vice President, First Vice President, President-Elect and will become President next year. Now Ruth is working

toward combining the two state pharmacy organizations and having a joint convention within 2 years. She spearheaded a task force which rewrote the Arizona state rules and regulations relating to nuclear pharmacy.

It is very evident that Ruth has demonstrated all of the qualities that are criteria for the award. Her breadth of experience makes her a great mentor to new pharmacists and an valued advisor to organizational groups.

The Vanguard obelisk will be presented to Ruth at Convention 2000 in Houston. Congratulations to Ruth, who exemplifies LKS leadership and service.

FRATERNITY AWARDS 2000: CALL FOR NOMINATIONS

by Chris Grass

Chair, Awards Selection Committee

Lambda Kappa Sigma has a long tradition of excellence. Throughout our history we have had many sisters who have been leaders in the profession of pharmacy. One of the greatest honors that these sisters can receive is recognition by Lambda Kappa Sigma. We proudly present many awards to these outstanding women. At this time, we are calling for nominations for the following awards:

Award of Merit - Recognizes an alumni member of LKS who has distinguished herself by reason of academic achievement, professional advancement, community service, organizational work or commercial endeavors.

Distinguished Service Citation - Recognizes an LKS alumni member who has contributed outstanding service to the Fraternity.

Vanguard Leadership Award - Recognizes a member who has made sustained exemplary contributions in her/his

area of professional practice, and/or in professional associations, regulatory boards and in the community, emphasizing service to others innovations and entrepreneurial spirit.

Distinguished Young Pharmacist - Recognizes an LKS member in their first ten years of pharmacy practice, to recognize excellence in professional practice, community service, organizational and Fraternity involvement and other leadership achievements.

The nomination process is not difficult. Nomination forms are available from the International Office- call 1-800-LKS-1913. Please take a moment to consider the LKS sisters who are making a difference in the profession. It will be an honor if we are able to acknowledge their contributions by presenting them with these awards. Thank you for your consideration.

CONVENTION 2000: MAKING A DIFFERENCE IN THE NEW MILLENNIUM

by Sharon Brown
Chair, Convention Committee

How appropriate for Lambda Kappa Sigma to launch into the new millennium in Houston - also known as Space City - home to NASA, The Johnson Space Center, and Space Center Houston.

Convention 2000, with the theme "Making a Difference in the New Millennium" begins August 1, 2000. The host chapter, Alpha Sigma, has an additional theme - "200 in 2000". We want to set a record in convention attendance to start off the next century of Lambda Kappa Sigma's dedication to women in pharmacy. Read on to see all reasons why you should be a part of this record-setting event!

Our convention city of Houston, while known as the center for American manned space flight, it is also the capital of the international energy industry, home to the world-renowned Texas Medical Center, and the world's largest rodeo. Yep, everything's big in Texas! And Houston offers something for everyone!

Like to dine out? With over 8000 restaurants in the city, Houstonians eat out more times per week than anywhere else in the country. Fierce competition keeps the menu prices in check and the selection endless. French, Italian, Southwestern, and of course, authentic Mexican and Tex-Mex cuisines are available to tempt even the most selective gourmets!

In the mood for culture? Houston's Museum District offers opportunities for art appreciation, simulated stargazing, butterfly interaction, and a variety of exhibits to provide enjoyable experiences for everyone in the family. The Museum of Natural Science, Museum of Fine Arts, Contemporary Arts Museum, Children's Museum, and Houston Zoological gardens are just a few of the many fine institutions providing diverse cultural enrichment to visitors every day.

History buff? Sports fan? Thrill seeker? Try the George Ranch Historical Park, a living history museum that interprets Texas history through four generations of a family that lived on the ranch

for more than 150 years. Watch the Astros in their new downtown stadium as they try for the National League title. Or if fast-paced adventure and thrill-rides are more your speed, visit Six Flags Astroworld.

If the term "shop 'til you drop" causes your eyes to glaze over in anticipation, The Galleria is your place, where shopping could be an Olympic event!

All these activities are just fringe benefits for attending the convention, our real reason for gathering in Houston. Our convention hotel, the Marriott West Loop, is just blocks from the Galleria, convenient to all area attractions, and just down the road from some of the hottest nightlife in the city. But most importantly, our convention hotel will host all the convention meetings, banquets, and educational programs.

While the serious business of strengthening LKS and forming strategic plans is essential to our meeting, this year we are emphasizing the need for interaction among all our members. We especially want to provide an opportunity to strengthen the bonds of friendship, newly formed and those perhaps long lost that are so much fun to renew at convention. The dress code will be mainly casual, with a Go Texan! Day and LKS shirt day. A total of 12 hours of CE will be provided, and a unique and lively review of LKS through the years as our keynote address.

This is a fantastic opportunity for those who have never attended - or have not attended in years - to see what an invigorating event conventions are. This is also a fantastic opportunity for those who attend every convention to become a part of the new trend in LKS conventions - hard at work, hard at play, but always working in concert for the advancement of pharmacy among women. Keep an eye out for more details regarding convention in upcoming publications! And mark your calendars now for Convention 2000!

Continuing Education...

A Review of Currently Available Platelet Inhibitors

by Sharon Brown M.S., R.Ph.

Sponsored by Merck

OBJECTIVES:

1. Describe the role of platelets in thrombus formation
2. Describe the patients most likely to benefit from GP IIb/IIIa inhibitor therapy
3. Identify differences in the activity and clinical benefit profile for each GP IIb/IIIa inhibitor

Acute coronary syndromes (ACS), such as myocardial infarction and unstable angina affect approximately 4 million American adults each year. About 10% of these patients undergo some type of percutaneous coronary intervention (PCI), such as percutaneous transluminal coronary angioplasty (PTCA), stent placement, or atherectomy. During these procedures, the arterial endothelium is damaged, resulting in exposure of thrombogenic surfaces and the release of substances that trigger platelet aggregation. This process increases the risk of complications due to thrombus formation, including death and ischemia requiring additional treatment intervention. Platelet aggregation plays a major role in the pathogenesis of acute coronary syndromes and in complications arising from percutaneous coronary interventions performed to manage these patients. The increased awareness of the role of platelets in these processes has led to the use of platelet glycoprotein IIb/IIIa receptor antagonists during PCI to reduce the incidence of complications in patients undergoing such procedures. This article focuses on the use of currently available agents in the management of patients with ACS.

Overview

Hemostasis is a complex process triggered by damage to the endothelium of a blood vessel or by the rupture of an atherosclerotic plaque. These events lead to the exposure of a highly thrombogenic surface often referred to as a subendothelial matrix. This surface supports the formation of a thrombus composed of platelets and fibrin, and can grow to a size large enough to compromise blood flow, leading to an acute coronary event.

Platelets are active in the formation of a thrombus first by adhesion, which entails the attachment and spreading of platelets onto an exposed surface, and by aggregation, which is the interaction of platelets with other platelets. Platelets adhere to proteins and other substances either directly or through a molecular bridge created by plasma proteins such as von Willebrand Factor. These actions then support the formation of thrombin, or release of agonists from within platelets, such as adenosine diphosphate (ADP) and other metabolites. These substances recruit and activate other platelets, which aggregate with one another to form a thrombus. Critical to the aggregation process is the activation of the glycoprotein IIb/IIIa cell surface receptor, which mediates platelet aggregation.

Platelet aggregation can be inhibited by blocking thrombin with heparin, by blocking prostaglandin synthesis with agents like aspirin, and by blocking ADP-induced platelet aggregation with ticlopidine or clopidogrel. However, since these agents do not block all of the pathways leading to platelet aggregation, thrombus formation is still possible. Since the GP IIb/IIIa receptor involves the final common pathway for platelet aggregation from multiple agonists, the inhibition of these receptor sites provides an effective

means of reducing the potential for thrombus formation, and provide a significant benefit as adjunctive therapy during interventional procedures, as well as in the medical management of ACS in situations where PCI is not indicated.1

There are currently three GP IIb/IIIa platelet receptor antagonists approved for use in the US. They are abciximab (ReoPro®, Centocor/Lilly), eptifibatide (Integrilin®, Cor/Key/Schering), and tirofiban (Aggrastat®, Merck). The FDA-approved indications for each agent are listed in Table 1.

Abciximab

Abciximab is a chimeric monoclonal antibody fragment that blocks the GP IIb/IIIa receptor on the surface of the platelet. It also binds to the vitronectin receptors found on the surface of platelet cells, vessel wall endothelial cells, and smooth muscle cells. The clinical significance of this activity is currently not known, but may account for the longer half-life of this agent over the other GP IIb/IIIa receptor antagonists.

The inhibitory effect of Abciximab on platelet aggregation can be seen within 10 minutes of the administration of a single bolus injection. At recommended doses, greater than 80% of the GP IIb/IIIa receptors are blocked resulting in greater than 80% inhibition of platelet aggregation. Platelet aggregation can be restored by infusing platelets. Otherwise, 80% of platelet function returns within 24 hours of administration. Although free abciximab is rapidly cleared from the plasma, low levels of receptor blockade are present for more than 15 days following the infusion.2

Eptifibatide

Eptifibatide is a synthetic, cyclic heptapeptide derived from barbourin, a peptide isolated from the venom of the southeastern pygmy rattlesnake, *Sistrurus m. barbouri*. This agent alters a peptide sequence through which binding of the GP IIb/IIIa receptor occurs.

Within 15 minutes of a bolus dose of 135mg/kg followed by an infusion of 0.5mcg/kg/minute, 69% of platelet aggregation was inhibited. This increased to 84% inhibition with a bolus of 180mcg/kg and a 2mcg/kg/minute infusion. Steady state platelet inhibition was 40 - 50% for the lower dose infusion rate, and greater than 90% for the higher dose infusion rate. Bleeding time prolongation six hours following discontinuation of the infusion was similar to controls for the lower dose infusion rate, and was 1.4 times the control for the higher dose infusion rate.3

Tirofiban

Tirofiban is a tyrosine-derived synthetic GP IIb/IIIa receptor inhibitor. Greater than 90% platelet inhibition was achieved at the end of a 0.4mcg/kg/minute loading dose infused over a 30-minute period. A maintenance dose of 0.1mcg/kg/minute sustained this level of inhibition. Within 4 to 8 hours after discontinuing the infusion, platelet aggregation returned to near normal levels in most patients.4

Clinical Trials

The majority of clinical trials involving the glycoprotein IIb/IIIa receptor antagonists have involved patients with unstable angina, acute myocardial infarction, and in patients undergoing percutaneous coronary interventions (PTCA). Below are some summary statements for each of the agents.

Abciximab. The data presented for abciximab are very consistent in terms of dosing and outcomes. Each trial showed reductions in primary composite endpoints. Bleeding rates associated with abciximab decreased as a result of weight-adjusted dosages of heparin and careful attention to post-procedure wound care. In addition, some long-term benefits have been exhibited in these patients for up to 3 years after treatment. Potential bleeding, immunogenicity, and high cost are currently the major disadvantages to the use of abciximab.

The major trials with currently available data on abciximab include the EPIC (Evaluation of 7E3 in Preventing Ischemic Complications), EPILOG (Evaluation in PTCA to Improve Long Term Outcome with Abciximab GP IIb/IIIa Blockade), CAPTURE (The c7E3 Fab Antiplatelet Therapy in Unstable Refractory Angina), and EPISTENT (The Evaluation of Platelet IIb/IIIa Inhibitor for Stenting).

EPIC. The EPIC trial was the first large-scale trial of a GP IIb/IIIa receptor antagonist. It was conducted to determine the efficacy of abciximab in percutaneous coronary interventions.⁵ In addition to standard treatment with aspirin and heparin, the 2,099 high-risk patients with ACS undergoing PCI in this study received an abciximab bolus (0.25mg/kg), an abciximab bolus plus 12-hour infusion (10 mcg/min), or placebo. The primary endpoint was a composite of all of the following events in the first 30 days following randomization: death, myocardial infarction, or need for repeat revascularization (percutaneous transluminal coronary angioplasty or coronary artery bypass graft).

Abciximab given as a bolus plus infusion significantly reduced the incidence of MI over the placebo treated group at 30 days, six months, and one year. This regimen also showed a significant effect on revascularization rates, reducing the need for emergency PTCAs at 30 days over placebo. At one, two, and three years, this regimen significantly reduced the need for revascularizations. Separating the composite endpoint into its individual components showed that abciximab had no effect on death. Bleeding was the primary adverse event associated with abciximab. Overall, EPIC showed that abciximab was efficacious in reducing the incidence of the composite event rate in high risk patients undergoing PTCA or atherectomy, but a high rate of bleeding was associated with this benefit. Subsequently, a pilot study called Precursor to EPILOG (PROLOG) was conducted to determine whether modification of heparin dosing and early sheath removal would reduce bleeding complications. The results of the study suggested that if low-dose heparin and early sheath removal are included as a part of the regimen, bleeding complications with abciximab can be reduced to an incidence comparable to those treated with placebo without a loss of efficacy.

EPILOG. This study was designed to determine if abciximab could benefit all patients undergoing coronary interventions regardless of their risk of ischemic complications, and to determine whether the incidence of bleeding could be reduced by weight-adjustment of the heparin dose without loss of efficacy.

All patients received 325mg of aspirin two hours prior to the procedure, and continued this therapy daily. They were randomized to one of three treatment groups: placebo with standard dose weight-adjusted heparin, standard dose abciximab with standard dose weight-adjusted heparin, or low-dose abciximab with low-dose, weight-adjusted heparin. Although a total of 4,800 patients were originally planned for inclusion in the study, the trial was termi-

nated after 2,792 were treated. This was due to a planned interim analysis of data that revealed a significant reduction in death or MI at 30 days after randomization in the abciximab treated groups vs. placebo.⁶

This trial showed that use of abciximab along with a weight-adjusted heparin dosing regimen had a dramatic effect on reducing bleeding complications experienced in the EPIC trial while maintaining efficacy in a broad group of patients undergoing PTCA.

CAPTURE. This trial was designed to assess whether abciximab, given 18 to 24 hours prior to PTCA and continued until one hour after PTCA could improve the composite outcome of death, MI, or urgent intervention in patients with refractory unstable angina.

All patients received aspirin and heparin, and were assigned to receive either a placebo or abciximab (bolus and continuous infusion) for 18 to 24 hours before angioplasty and continued for one hour after the completion of the procedure. Like the EPILOG study, this trial was discontinued prior to the enrollment of the planned 1,400 patients due to a significant reduction in the composite efficacy endpoint at 30 days in the abciximab treated group compared with placebo.⁷

EPISTENT. This clinical trial was designed to compare the efficacy of abciximab plus stent placement, abciximab plus PTCA, and stent placement alone in patients with ischemic heart disease who were candidates for elective or urgent PCI. Aspirin was administered to all patients. Those assigned to abciximab also received low-dose, weight-adjusted heparin and the same dosage regimen of abciximab as used in EPILOG. Patients assigned to stent placement alone also received standard-dose, weight-adjusted heparin. All stent patients were also treated with ticlopidine.

The composite endpoint - death, MI, or urgent revascularization at 30 days - occurred significantly more often in the stent only group than in either of the abciximab treated groups. At 6 months, patients in the abciximab plus stent group had a 50% reduction in death or MI as compared to the stent alone group. At one year, a mortality benefit was shown in the abciximab plus stent group compared to the stent alone group.⁸

Eptifibatide. Eptifibatide has the broadest indication of all the glycoprotein IIb/IIIa antagonists. However, there is some controversy over the use of the reduced dosage regimen related to the analysis of the data from the trial upon which this regimen was derived. In any event, both doses show benefit in preventing early abrupt vessel closure and ischemic events at 24 hours. No long-term benefits over placebo have been demonstrated.

Trials evaluating eptifibatide include IMPACT-II (Integrilin to Minimize Platelet Aggregation and Coronary Thrombosis-II), and PURSUIT (Platelet Glycoprotein IIb/IIIa in Unstable Angina: Receptor Suppression Using Integrilin Therapy).

IMPACT-II. This clinical trial involved over 4000 patients with acute coronary syndromes undergoing PCI. Patients were assigned to either placebo therapy or one of two eptifibatide regimens: bolus (135mcg/kg) plus 20 - 24 hour infusion of either 0.5mcg/kg/min or 0.75 mcg/kg/min. All patients also received aspirin and heparin.

Based on an intent-to-treat analysis, the composite endpoint of death, MI, or urgent revascularization at 30 days did not differ significantly between the eptifibatide treated groups and placebo. In the treatment received analysis, only the higher dose regimen showed a significant reduction in the composite endpoint.⁹

PURSUIT. This study included nearly 11,000 patients with acute coronary syndromes without persistent ST-segment elevations. Patients were assigned to receive either placebo or an eptifibatide bolus (180 mcg/kg) plus a 72 hour or 96 hour continuous infusion of eptifibatide at a dose of 2mcg/kg/min.

The eptifibatide treated group had a 10% lower composite endpoint rate than the placebo group throughout the 30 day period. However, it was not significant at 6 months following treatment. The subset of patients undergoing PCI benefited most from eptifibatide with a 31% reduction in the incidence of death or MI at 30 days.10

Tirofiban. Tirofiban had the most variable data resulting from clinical trials. Different composite endpoints of some trials involving tirofiban make it difficult to make an accurate comparison among trials. However, the data suggest a beneficial role in the use of this agent for acute coronary syndromes and non-Q wave myocardial infarction treatment.

Trials evaluating tirofiban include RESTORE (Randomized Efficacy Study of Tirofiban for Outcomes and Restenosis), PRISM (Platelet Receptor Inhibition in Ischemic Syndrome Management), and PRISM-PLUS (Platelet Receptor Inhibition in Ischemic Syndrome Management in Patients Limited by Unstable Signs and Symptoms).

RESTORE. This trial assessed the effectiveness of tirofiban versus placebo in high-risk patients with acute coronary syndromes undergoing PCI. All patients received aspirin and heparin. Tirofiban was administered as a bolus (10mcg/kg) followed by a 36 hour infusion at a dose of 0.15mcg/kg/min. The composite endpoint of death, MI, or any revascularization at 30 days was not statistically significant between the two groups.11

PRISM. This trial compared tirofiban (0.6mcg/kg loading dose plus 0.15mcg/kg/min infusion for 48 hours) versus heparin in over 3000 patients with unstable angina. The composite endpoint of death, MI, or refractory ischemia was significantly reduced in the tirofiban treated group at 48 hours, but not at 30 days. However, there was a significant reduction in mortality in the tirofiban treated group at 30 days.12

PRISM-PLUS. This study compared tirofiban alone, heparin alone, and tirofiban plus heparin for longer infusion periods than in the PRISM trial (mean:71.3 +/- 20 hours). Close to 2000 patients with unstable angina or non-Q wave MI were included. At 7-day analysis the tirofiban monotherapy arm was discontinued due to excess mortality. The tirofiban plus heparin group showed a significant reduction in the 7-day composite endpoint of death, MI, or refrac-

tory ischemia over the heparin treated group. The greatest benefit of tirofiban therapy was seen among patients who underwent angioplasty as compared to those undergoing medical management.13

Summary Comparison of Agents

There have been no head-to-head comparisons of GP IIb/IIIa inhibitors. All agents show benefit as adjunctive therapy in patients undergoing PCI. Current data suggest a possible long term benefit of abciximab over other agents, with long term studies showing benefits for 6 months and up to 3 years. The newer agents tirofiban and eptifibatide have no documentation of extended benefit at this time.

Both tirofiban and eptifibatide have been shown to reduce ischemic complications in patients with ACS who are not undergoing PCI. However, study results are such that a definite advantage of one agent over the other for medical stabilization of unstable angina cannot be determined at this time.

Early concerns about bleeding no longer appear to be a major safety issue with this class of drugs, especially with the incorporation of low-dose or adjusted dose heparin into treatment regimens. Additionally, no increased risk of intracranial hemorrhage has been reported with any agent. Reversibility of platelet inhibition after the administration of abciximab requires platelet transfusions. The antiplatelet effects of tirofiban and eptifibatide dissipate over 4 to 8 hours after the end of the administration period. Platelet transfusions will not reverse the effects of these agents, and is therefore unwarranted.

New Agents under Study

Several other GP IIb/IIIa receptor antagonists are in clinical trials, including several oral agents being studied to determine any benefit from long-term secondary prevention of ischemic events.

Summary

Acute coronary syndromes represent a heterogeneous group of patients with varying degrees of risk, and suitable candidates for GP IIb/IIIa receptor inhibitor treatment should be identified to determine those most likely to benefit from this therapy. In fact, most patients with unstable angina require only conventional therapy with heparin and aspirin. Those most likely to benefit from GP IIb/IIIa receptor inhibition are those with a high risk of ischemic events - those that are traditionally sent to the catheterization lab immediately for revascularization. When appropriate triage of candidates for this therapy occurs, the benefits of therapy far outweigh the increased cost of the administration of these newer agents.

Table 1. FDA-approved indications of GP IIb/IIIa receptor inhibitors

Abciximab	As an adjunct to PCI for the prevention of ischemic complications <ul style="list-style-type: none"> • in patients undergoing PCI • in patients with unstable angina not responding to conventional medical therapy when PCI is planned within 24 hours
Tirofiban	For the treatment of acute coronary syndromes, including <ul style="list-style-type: none"> • patients who are to be managed medically • patients undergoing PTCA or atherectomy
Eptifibatide	For the treatment of acute coronary syndromes, including <ul style="list-style-type: none"> • patients who are to be managed medically • patients undergoing PCI

References

1. Collier BS. Platelets in cardiovascular thrombosis and thrombolysis. In: Fozzard HA, et al, eds. *The Heart and Cardiovascular System*. New York, NY: Raven Press; 1992:219-73.
2. Jordan RE, et al. Recovery of platelet function after Reopro treatment: Gradual tapering of antithrombotic activity but rapid recovery of hemostatic potential. *Am J Cardiol* 1997;80(Suppl):1S. Abstract TCT-1.
3. Phillips Dr, Scarborough RM. Clinical pharmacology of eptifibatide. *Am J Cardiol* 1997;80(Suppl 4A):11B - 20B.
4. Hartman GD. Tirofiban hydrochloride. *Drugs Future* 1995;20:897-901.
5. The EPIC Investigators. Use of a monoclonal antibody future directed against the platelet glycoprotein IIb/IIIa receptor in high-risk coronary angioplasty. *N Eng J Med* 1994;330:956-61.
6. The EPILOG Investigators. Platelet glycoprotein IIb/IIIa receptor blockade and low-dose heparin during percutaneous coronary revascularization. *N Eng J Med* 1997;336:1689-96.
7. The CAPTURE Investigators. Randomised placebo-controlled trial of abciximab before and during coronary intervention in refractory unstable angina: The CAPTURE study. *Lancet* 1997;349:1429-35.
8. Topol EJ. EPISTENT - 6 month results. Paper presented at: 20th Congress of the European Society of Cardiology; August 22 - 26, 1998; Vienna, Austria.
9. The IMPACT-II Investigators. Randomised placebo-controlled trial of effect of eptifibatide on complications of percutaneous coronary intervention: IMPACT-II. *Lancet* 1997;349:1422-8.
10. The PURSUIT Trial Investigators. Inhibition of platelet glycoprotein IIb/IIIa with eptifibatide in patients with acute coronary syndromes. *N Eng J Med* 1998;339:436-43.
11. The RESTORE Investigators. Effects of platelet glycoprotein IIb/IIIa blockade with tirofiban on adverse cardiac events in patients with unstable angina or acute myocardial infarction undergoing coronary angioplasty. *Circulation* 1997;96:1445-53.
12. The Platelet Receptor Inhibition in Ischemic Syndrome Management (PRISM) Study Investigators. A comparison of aspirin plus tirofiban with aspirin plus heparin for unstable angina. *N Eng J Med* 1998;338:1498-505.
13. The Platelet Receptor Inhibition in Ischemic Syndrome in Patients Limited by Unstable Signs and Symptoms (PRISM-PLUS) Study Investigators. Inhibition of the platelet glycoprotein IIb/IIIa receptor with tirofiban in unstable angina and non-Q-wave myocardial infarction. *N Eng J Med* 1998;338:1488-97.

Examination: Select the one best answer to each of the following questions and record your response on the examination answer sheet. Mail the examination sheet to the address shown on the exam sheet.

1. How many American adults are affected each year by acute coronary syndromes?
 - a. 100,000
 - b. 400,000
 - c. 1 million
 - d. 4 million
2. Platelets are active in the formation of a thrombus by:
 - a. adhering to an exposed thrombogenic surface
 - b. aggregating with other platelets
 - c. adhering to plasma proteins
 - d. all of the above
3. Which of the following inhibits the final common pathway for platelet aggregation?
 - a. heparin
 - b. aspirin
 - c. ticlopidine
 - d. abciximab
4. Abciximab is:
 - a. a monoclonal antibody
 - b. derived from snake venom
 - c. available in oral dosage forms
 - d. not reversible by platelet infusion
5. The EPIC trial:
 - a. stands for Evaluation of PTCA in Ischemic Complications
 - b. was the first large-scale trial of a GP IIb/IIIa receptor antagonist
 - c. only reported data for the first 30 days after treatment
 - d. showed no increased risk of bleeding compared with placebo treatment

6. Eptifibatide:
 - a. was evaluated in the IMPACT-II and RESTORE trials
 - b. is a tyrosine-derived synthetic GP IIb/IIIa inhibitor
 - c. has the broadest indication of all GP IIb/IIIa inhibitors
 - d. all of the above
7. Which of the following have been evaluated in head-to-head studies?
 - a. abciximab vs. tirofiban
 - b. abciximab vs. eptifibatide
 - c. tirofiban vs. eptifibatide
 - d. there have been no head-to-head comparisons conducted
8. Abciximab has studies to document long term benefits of therapy for:
 - a. 3 months only
 - b. 6 months only
 - c. up to 3 years
 - d. no long-term benefits have been documented
9. Patients most likely to benefit from GP IIb/IIIa receptor antagonist therapy are:
 - a. all patients being medically managed for acute MI
 - b. those with a high risk of ischemic events
 - c. all patients undergoing PCI
 - d. all patients with ACS
10. Of the currently available GP IIb/IIIa receptor inhibitors in the US:
 - a. all are available in oral dosage forms
 - b. all have the same FDA-approved indications
 - c. all are available for IV use only
 - d. none of the above

Examination Answer Sheet

Review of GP IIb/IIIa Inhibitors

Directions: Darken the appropriate circle corresponding to your answer for each question using a soft lead pencil.

A passing grade of 70% is required.

	A	B	C	D
1.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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CHAPTER REPORTS

(edited for space considerations)

ALPHA CHAPTER, BOSTON MA

Massachusetts College of Pharmacy

The sisters of Alpha Chapter eagerly began their summer in June with the "AIDS Walk Boston". July and August also kept the sisters very busy, as hosts of the biennial Regional meeting at the Holiday Inn and helping out with freshman orientation. During the week of freshman orientation the sisters hosted their traditional "Beastie Boys Laser Light Show" at the Museum of Science and held their annual "Welcome Back Party" at the American Legion. These events were big hits! September proved to be very profitable for the chapter. We held our annual lab coat, name tag, and calculator sales. Also the sisters participated in the "American Heart Walk" raising and donating a total of \$150. The sisters finished September with a new event, "Movie Night," which was held in the student lounge and open to the entire student body. On October 3rd the sisters of Alpha Chapter participated in the annual "Walk for Breast Cancer" donating a total of \$260. Later in October the sisters hosted their traditional "Halloween Party" at the American Legion and a trip to a haunted house. Hopefully the success we have had thus far will continue throughout the rest of the year to come.

BETA CHAPTER, PITTSBURGH PA

University of Pittsburgh

Nine of our sisters attended the LKS Convention at Boston this Summer. We all found it interesting and enjoyable. Boston is a great place to visit. Our welcome back party was a great success. It was good to see everyone and catch up on their summer events and travels. The LKS Date Rape Seminar for the freshman class was very informative. The guest speaker made many important and valuable suggestions. Fund raisers that we have been working on include a pharmacy student name tag sale, a magazine sale, a T-shirt sale, pie sale, a penny social and a cookbook sale titled "Lambs in the Kitchen." The cookbook is a collection of recipes donated by the sisters. We had many sisters participate in the American Heart Association Walk, the bake sale to benefit Lupus, and Breast Cancer Awareness week. Our annual rush dinner was held at the Italian American Community Center this year. Our rush video was a big hit; it includes various pictures of sisters over the year set to music. This video always helps give the rushees a glimpse as to what LKS is about. After the rush dinner all of the sisters and potential candidates got together at a sister's house to get to know each other better. Finally, the Founder's Day celebration will be held at the Turning Stone Casino this year. We all look forward to a very busy and productive year.

ETA CHAPTER, PHILADELPHIA PA

Philadelphia College of Pharmacy

Hello from Eta chapter! Once again, a busy fall semester is underway. We started off the year with the annual Greek Week activities. Working together with all the other Greeks, we successfully raised about \$3000 for the HMS school. The sisters continue to aid at the Southwest Community Enrichment Center by selling raffle tickets and helping to tutor the children of the area weekly. This has been a very rewarding experience for all who have participated. Poison Prevention in elementary schools continues to be one of the community services we all enjoy - the children are so cute! We got together with our brother fraternity, Kappa Psi, and had our spaghetti dinner. Our rushes were very successful this semester and we hope to have many new members next spring. This year, Eta chapter welcomes our new faculty advisor, Dr. Elena Umland. Dr. Umland is an Assistant Professor of Clinical Pharmacy at the college and is very enthusiastic about helping to promote the profession - she has so many great ideas for us!! In November, the chapter honored fourteen sisters who will either graduate in May or start rotations...best of luck! Plans that are in the works...We will be planning a blood pressure screening at the school to raise awareness about cardiovascular disease. In addition, a permanent bulletin board which will have a drug featured each month with information relevant to its use is undergoing approval from the school. We hope that everyone has a great semester!

PI CHAPTER, PISCATAWAY NJ

Rutgers University

Greetings from Pi Chapter. We welcome everyone back to a new school year. Events started early at our school this year. The organizations hosted an activities fair along with the annual picnic for first years. LKS had a table where we displayed photo albums, LinKS and membership information. We also distributed medicine vials containing candy to the first years. The label stated "Lambda Kappa Sigma." They were a big hit! Our rush events consisted of coffee night with the sisters at a local cafe, make your own sundae night, and a dress to impress dinner. They were well attended and we are excited about our new member orientees. For our community service project, our chapter walked in the annual Aids Walk, hosted by the Hyacinth Aids Foundation. Our future plans for this semester include hosting an eating disorder/body image seminar for mid-November. The sisters would also like to host a workshop on how to transfer pharmacy licenses to different states. Our goal is to have this program in early December when fifth years begin their rotations. Fund raisers planned for this fall are distributing credit card applications to raise money. Hopefully the sisters can also work at an amusement park for a day and the wages will be donated to our chapter. Best wishes to all the other chapters.

TAU CHAPTER, PITTSBURGH PA *Duquesne University*

This semester at Duquesne University Tau Chapter welcomed three new members. We had two very successful rush activities. The first rush activity was informal and had a tropical theme. The second rush party was formal and had an elegant grapes and wine theme. We are very excited to welcome these three new members and hope that they will find Lambda Kappa Sigma to be very rewarding. Professionally, we have been very busy. Our What is a Pharmacist Committee has sent out letters to guidance counselors at local high schools offering our presentation. The Outreach Committee has put together a presentation on "How to Use Your OTC Products." They have sent out letters to area community centers to inform them of our presentation. Our Women's Health Committee had a booth at the Health Fair on October 20th. Their topic was Hormone Replacement Therapy Among Women, and they contacted local drug companies for additional information such as pamphlets that were distributed to the public. We also ordered pencils to distribute at the Health Fair. Our Service Committee has been very active as well. Our fraternity participated in a Breast Cancer/Denim Day fund raiser that supports the Susan G. Komen Breast Cancer Foundation. Since October was Breast Cancer Awareness Month we had a guest speaker on this topic from St. Francis Hospital for Founders Day. We also have other service projects planned such as Global Links, American Heart Association Walk, walking animals for the Animal Rescue League, and we are collecting Kellogg's cereal box tops to benefit Children's Hospital. We have two fund-raisers planned for this semester. Our first fund raiser is selling drug cards to the nursing students as well as pharmacy students here at Duquesne University. Our second fund raiser is the Sarris candy sale in which we will be selling holiday candy. Among our other activities, we had a new member party October 29th. This party welcomed our new members and had a Halloween theme. The Family Tree Tea was October 20th and was a great time for all the sisters to bond over dinner at Dingbats. We are also scheduling our Fall Semiformal for some time in November.



Alpha Kappa Sisters who attended the APhA Meeting in San Antonio, Spring 1999.

ALPHA ALPHA CHAPTER, PHILADELPHIA, PA *Temple University, School of Pharmacy*

Greetings! The sisters of Alpha Alpha Chapter are off to a great start. So far, we have held many rush events. Some of them include: A 'Get To Know Us' luncheon held in conjunction with our brother fraternity, Kappa Psi, a 'study hour' where freshmen could ask us questions about their upcoming exams and look over our old notes, as well as a few informal get-togethers we like to call 'LKS-a-Latte' and "Bring a favorite CD." In September, our school held a 'Welcome Back' Picnic for returning students and the incoming freshman class and also participated in Homecoming Week. LKS was involved in creating the decorations for both of these events. At the end of October, two of our sisters who are completing their last year in the Pharm.D. Program, Francine Farnsworth and Yelena Bogus, spoke to the freshman and sophomore classes about what to expect of their upcoming years of pharmacy school. Also, our Annual Christmas Formal will be held in December. We have already had several fund raising events, such as bake sales and soft pretzel sales. The sisters of LKS participated in our annual fund raiser the "AIDS Walk" on October 17th and will participate in the "The Race for the Cure" 5K walk for breast cancer on May 14, 2000. Last year we helped raise over \$1000 for breast cancer research! Needless to say, we are very enthusiastic and we are going to make this our best year to date!

ALPHA BETA CHAPTER, STORRS CT *University of Connecticut*

Lambda Kappa Sigma of the University of Connecticut, Alpha Beta Chapter, has had a great spring semester in 1999 and continues to go strong. This past spring, we helped to raise awareness of the interaction between birth control pills and antibiotics by creating an informational poster. Many LKS sisters dedicated a Sunday morning walking/running for AIDS awareness and to help raise money for the Windham AIDS Hospital. Three of our sisters finished in the top 15 in the race. The race was a great way to get exercise while supporting an excellent cause. With the end of the semester, we were sad to see two of our sisters graduate. Our senior dinner was a success with good food and sad partings to two great sisters. For the semiformal, we took a new approach and started the first LKS and Kappa Psi luau. The luau was very different than our usual semiformal, and a great time, too. Also in the spring, the sisters successfully participated in a two-day phone-a-thon to raise money for the School of Pharmacy Dean's Fund. During the summer, the Regional Convention was held in Boston, MA. Before the convention, Alpha Beta sisters cross-stitched pillows to sell to other LKS chapters. Six sisters attended the convention returning with new ideas and a great excitement for LKS. The fall semester has started with a bang. For the Health Fair, our focus was on prescription weight loss drugs. We also continued our annual Breast Cancer Ribbon sale for Breast Cancer Awareness month and were actively involved with the Windham Rehabilitation Center. We began our semester with the Regional Visit from Nicole Lefebvre who offered many great ideas to improve our chapter. The sisters of Alpha Beta continue to expand on ideas to make LKS even better for the future.

ALUMNI CHAPTER REPORTS

ALPHA ALUMNI CHAPTER

Ten Alpha Alumni members attended this summer's Regional Meeting held in Boston the weekend of July 30-August 1. Grand President and Alpha Alumni member Christine Perry presented an Interviewing Techniques workshop to the membership. Alpha Alumni members Linda Clark and Donna Horn were speakers for the Career Opportunity Panel. At the Awards Luncheon two awards were presented to Alpha Alumni members, the Young Pharmacist of the Year Award to Linda Clark and the Advisor of the Year Award to Christine Perry. We are proud of our alumni members and are pleased the Fraternity recognized our members' outstanding contributions. We were honored to serve as hosts for the Regional and hope everyone had a great time. Founder's Day was held on October 13 at the Massachusetts College of Pharmacy. After the ceremony we enjoyed refreshments and listened to our alumni speaker Pat Pentleton. Pat spoke about her experience in LKS, attending many Conventions and the benefits of networking and sisterhood. When Pat and her sister LKS alumni member Cathy Filosi, sold their father's pharmacy-Pat had a difficult time finding a pharmacist position. It was an LKS sister who found her a job proving that membership in LKS does have its privileges.

CHI ALUMNI CHAPTER

Chi Alumni Chapter is proud to announce that LKS member, Beverly Schaefer, a 1970 graduate of the University of Washington, and co-owner of Katterman's Sand Point Professional Pharmacy in Seattle, was the 1999 recipient of the Dupont Pharma Innovative Practice Award presented at the recent Washington State Pharmacists Association Convention in June. She was one of the State's pioneers in providing immunizations, and one of the first to implement the emergency contraception protocol. Beverly was one of the first three pharmacists in the country to purchase a bone density measuring machine. She has assisted over 30 pharmacists in the state to implement the bone density screenings. She hopes to include anticoagulation monitoring in the future.

Siri Childs, Chi '67, has been appointed to the position of pharmacy Research Specialist at the Medical Assistance Administration's Division of Health Services Quality Support. Finally, the sisters of Chi Alumni chapter are saddened at the loss of Ruth Rindero Chaney, Chi '44, who died October 25, 1999. Ruth was a charter member of Chi Collegiate Chapter.

PHI ALUMNI CHAPTER

Earlier in the spring, Phi Alumni Chapter members gathered to celebrate the 50-year anniversary of a fellow LKS sister and Phi alumni, Beverly Etherington. Then in August, three members attended the regional meeting in Toledo. Following the regional meeting, the alumni participated in the collegiate chapter's fondue party for rush, and have other activities and events planned for the fall/spring.

ALPHA BETA ALUMNI CHAPTER

Alpha Beta can now count nine active members in the chapter. We are still operating mostly as an email chapter with newsletters going out to 30 alumni bimonthly. Two of our members attended the Boston Regional Meeting. We had an Alumni Luncheon with our collegiate chapter in the Spring semester. We also initiated one new alum, Dr. Sandra Vigil-Cruz, a new faculty member at the University of Connecticut who is actively doing research on women's health issues. Anyone interested in receiving a newsletter by email from our chapter should contact Robin Bogner at bogner@uconnvm.uconn.edu.

CHOLESTEROL COUNSELING TIPS

Written by: Dixie Leikach, Chair Women's Health Issues Committee

One of the risks of developing heart disease is high cholesterol. Cholesterol levels can be determined by a simple test that should be done during a physical. There are a lot of questions that patients may have when asking about cholesterol. What does my cholesterol level mean? How can I lower my cholesterol level? What should I know about my cholesterol lowering medication? This article will help to answer some of the basic questions you may hear.

What does my cholesterol level mean?

There are several terms used for cholesterol levels. LDL level is an indication of the amount of low density lipoprotein (bad) cholesterol in the blood stream and this level should be less than 130 mg/dl in a healthy person. A patient with heart disease should have a level of less than 100mg/dl. 130-159 mg/dl is borderline high and 160mg/dl or higher is considered high. HDL level is an indication of the amount of high density lipoprotein (good) cholesterol. A high HDL level seems to protect you from heart attack. A level of 35mg/dl is considered high risk. A level of 60mg/dl is desirable. The last level is a triglyceride level which a high level can result from being overweight, having diabetes or drinking a lot of alcohol. It is unclear how triglycerides play a role in heart disease. A triglyceride level of 200mg/dl is considered normal. 200-400mg/dl is considered borderline high, 400-1000mg/dl high and greater than 1000mg/dl is very high.

How can I lower high cholesterol?

A healthy diet and regular exercise are the best ways to prevent your cholesterol from getting high in the first place and are imperative for a person who has been diagnosed as having high cholesterol. Diet choices should include plenty of foods low in saturated fats such as fruits and vegetables, whole grains (cereal, rice and pasta), lean red meats and poultry without the skin, lean fish/shellfish, low fat or skim milk dairy products and beans and peas. Foods that are high in saturated fat should be limited. There are some cooking tips that are helpful in reducing the amount of fat in the food you are preparing. Use a rack to drain fat while broiling, roasting or baking. Grill or microwave instead of pan frying. Cut all the fat you can see before cooking and remove the skin off chicken and turkey. Use vegetable oil spray to brown or sauté foods. Use egg whites instead of yolks in a recipe. Choose low fat products instead of regular when shopping.

What should I know about my cholesterol lowering medication?

Reinforce to patients that they need to continue their diet and exercise program while on their cholesterol medication. Side effects and lab testing varies depending on the medication they are taking. Side effects should be discussed with their doctor or you, their pharmacist, and the patient should not stop taking their medication on their own without talking to someone. Suggestions to help patients remember to take their medication are to have them take the medication at the same time each day and take it during a regularly daily event such as brushing their teeth or using a medicine calendar. Let the patient know the best time of the day to take their particular medication. Repeating the cholesterol level test is a good way to reinforce to the patient that their medication is working. Have the patient find out from their doctor what level he/she is trying to get the patient down to and the patient can keep track on their calendar or some other type of log book with reminders of when they are to get their level retested.



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