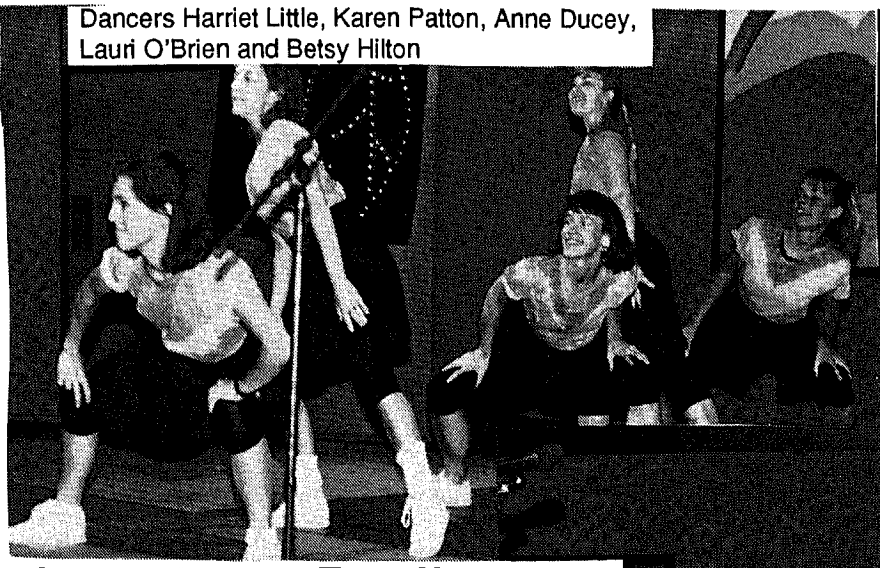
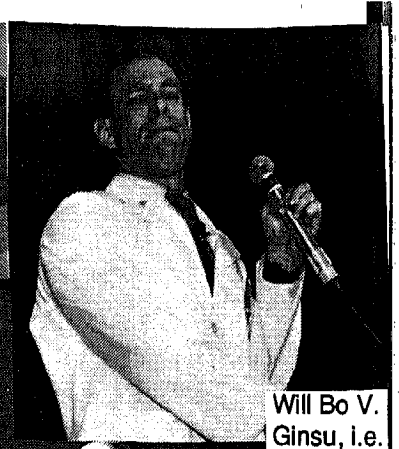


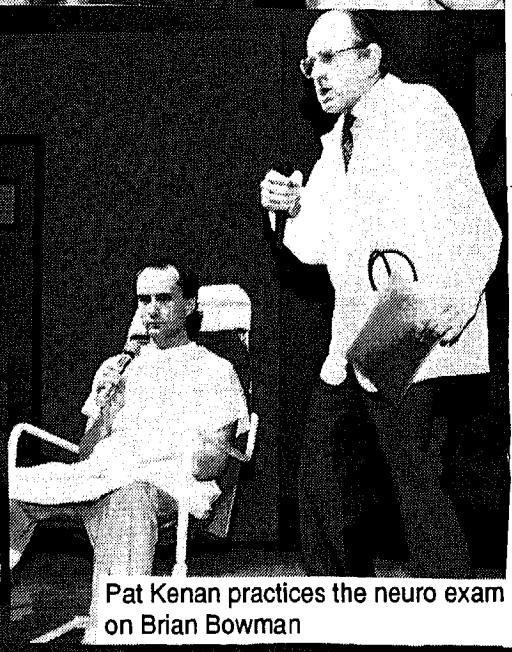
Dancers Harriet Little, Karen Patton, Anne Ducey, Lauri O'Brien and Betsy Hilton



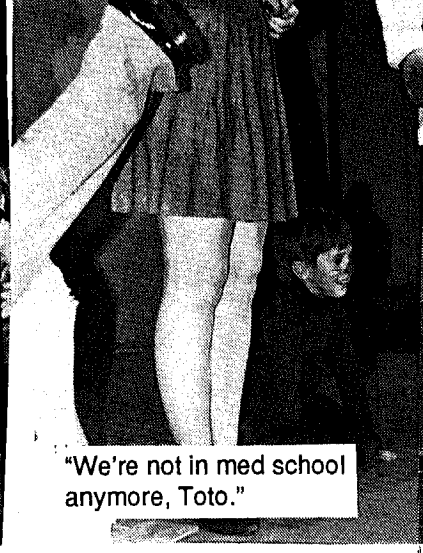
Will Bo V. Ginsu, i.e. Marc Garfinkel, find compassion in surgery?

Shifting Dullness

Graduation Issue-May 1991



Pat Kenan practices the neuro exam on Brian Bowman



"We're not in med school anymore, Toto."

Munchkins of MSI land.

This Month in Medical History

Chris Tharrington

• On May 1, 1819, Rene Theophile Hyacinthe Laennec, the great French clinician, invented the stethoscope; his Treatise on Mediate Ausculation appeared later the same year. Laennec also made important contributions to the field of pathological anatomy, especially that of pulmonary TB. Ironically, he died of this disease at 45.

• On may 9, 1960 the Food and Drug Administration approved the use of oral contraceptives in the U.S.

• Sigmund Freud was born on May 6, 1856.

• The Pennsylvania hospital, the oldest existing American institution for the care of the sick was founded on May 11, 1751 for "the care and treatment of lunaticks" (sic) so that they "may be restored to reason and become useful members of the community.

• Florence Nightingale, who revolutionized the practice of nursing through leadership and example, was born May 12, 1820.

• On May 15, 600 A.D., Dymphna, Princess of Gheel (Belgium), was beheaded, on her father's orders, for an unclear reason. A legend held that her touch cured those possessed by the devil. After her death a church was dedicated to her, and by the twelfth century, the town of Gheel had become a resort for those afflicted with mental disorders, a function which continues into this century.

• James Lind, the founder of English naval hygiene, was born May 17, 1716. The chief proponent of using citrus fruits and daily umbilicus cleanings to prevent scurvy among sailors, he treated thousands of cases in his career. Despite his recommendations and experience, when Lind died in 1794, over 40 years after his first publication on the subject, his treatment of providing lemon juice had not been officially endorsed.

• William Heberden, best known for his classic description of angina pectoris, but also the author of the first complete description of chicken pox and its distinction from smallpox, died May 17, 1801.

• In the city of Danzig, Poland on May 22, 1406, a hospital was founded for "poor sick women who have no other place to go."

• May 22, 1828 marked the birth of Albrecht von Graefe in Berlin. The greatest eye surgeon of his time, he invented or improved operations for cataracts, glaucoma, iritis and strabismus.

• Philippe Pinel of Paris, a theologian by training who turned to medicine and then, prompted by a friend's insanity, to psychiatry, was the first to treat the insane systematically in a humane manner. With the approval of the National Assembly, he removed the chains of 49 insane patients in the Bicetre Hospital in Paris on May 24, 1798.

• Imhotep ("he who cometh in peace") of Egypt, a vizier, physician and sage, is said to have been born on May 31 sometime around 2900 B.C. One of the few Egyptian mortals (other than kings) raised to the level of deification, he had temples dedicated to him as the god of healing; his worship lasted until at least the year 3 A.D. Osler called him "the first figure of a physician to stand out clearly from the mists of antiquity.

Second Opinions

AMA-MSS Calls for Deferral of Loan Repayment

Chris Tharrington

The American Medical Association Medical Student Section (AMA-MSS) recently issued a "legislative alert" asking medical students to encourage their members of Congress to cosponsor and vote for H. R. 1482 (introduced by Representative Austin J. Murphy, D-PA) and S. 102 (introduced by Senator William Cohen, R-ME). The passage of these resolutions would permit resident physicians to defer repayment of Title IV Student Loans—which include the Stafford (GSL), Perkins (NDSL), and Health Professions Student Loan (HPSL) programs—while completing accredited residency training programs. As you are probably aware, under current federal policy many residents are forced to begin repayment of these types of loans while still participating in training programs, imposing substantial financial hardships on them and their families.

The Higher Education Act is being reauthorized this year, creating a perfect opportunity to attempt to alter current loan repayment policies. Much work has gone into getting the effort to this point, but your support is needed to keep the process moving. Please call or write your senators and representatives (either here or in your home state) and ask them to support S. 102 and H. R. 1482, respectively.

Current co-sponsors of S. 102 by Cohen (R-ME) are Akaka (D-HI), Boren (D-OK), Burdick (D-ND), Cochran (R-MS), Graham (D-FL), Grassley (R-IA), Gorton (R-WA), Hatfield (R-OR), Lieberman (D-CT), Lott (R-MS), and Shelby (D-AL). Current co-sponsors of H. R. 1482 by Murphy (D-PA) are Bereuter (R-NE), Bruce (D-IL), Chapman (D-TX), Coleman (D-TX), Derrick (D-SC), Erdreich (D-AL), Evans (D-IL), Frost (D-TX), Horton (R-NY), Hyde (R-IL), Lagomarsino (R-CA), Lancaster (D-NC), Lent (R-NY), Norton (D-DC), Owens (D-UT), Penny (D-MN), Ramstead (R-MN), Roe (D-NJ), Towns (D-NY), and Yatron (D-PA). Contacting the sponsors or co-sponsors to thank them for their support would also be helpful.

Brief communications can be quite effective. If you cannot write or call personally, please sign, staple and send the mailings included with this issue to the senators and representatives of your choice. If you contact members of Congress yourself, feel free to cite the points included in these notes (this information comes from the AMA-MSS Legislative Alert).

Copies of the AMA-MSS Legislative Alert, which include pertinent statistics as well as lists of S. 102 co-sponsors, H. R. 1482 co-sponsors, and members of the Senate Committee on Labor and Human Resources and the House Committee on Education and Labor, will be posted outside CTL, at the House Staff office, outside the amphitheater, and in the Alumni Office. Please contact Chris Tharrington (383-4892) if you have any questions or desire further information.

Shifting Dullness accepts letters of opinion from all members of the medical school community. Opinions expressed do not necessarily reflect the opinions of the editorial staff. *Shifting Dullness* reserves the right to edit letters for length and style. Submit letters to the *Shifting Dullness* box in the Alumni Affairs Office (candy room), student lounge in Duke North, or mail to PO Box 2865 DUMC.

Shifting Dullness is an official publication of the Davison Council of Duke University Medical School.

Scientific Honor: Fact or Fabrication

Holly Lisanby

Imagine you are in a third year med student, 9 months into your research project, and things are not going well. You have repeated the same experiment 5 times and still aren't getting the results your preceptor expected. You walk into his office to show him your latest results. "These graphs don't look so good. Let me see your raw data," he says.

You show him your lab book. For each data point in this experiment, you made triplicate observations and calculated the mean. "The triplicate for that bad data point is really way off. Look, you got 200, 275, and 500. The true mean is probably closer to 200, so you should throw out the 500. That will make your mean 238. That's more like it!"

You are not sure if this is right. "Isn't there some statistical test you should apply in order to throw out abberant data points? I think I would have to specify in my methods section that observations which were off by more than a certain percentage were thrown out."

"No. Just check the points that look way off. You can generally tell just by looking if the difference is statistically significant. Don't worry. This is how it's done."

The medical student in the story faces many pressures confronting researchers. She has invested a great deal of time into a project that threatens to be unpublishable. Her supervisor is pressuring her to produce results which support his hypothesis. Perhaps worst of all, she is being introduced to the practice of "data cooking" apparently condoned by her supervisor.

The John Darsee case is a well publicized case of scientific fraud. In 5/81, Dr. John Darsee, highly respected cardiology researcher at Emory and Harvard Medical School, was found to have forged much of the data which supported most of his over 100 publications. The errors in his research included fabrication of data (to which he admitted), failure to retain original data, honorary authorship (listing coauthors who were not directly involved in the research either through data collection, analysis, or through making an essential intellectual contribution), incomplete or misleading statements (failure to indicate that controls used in the experiment were "historical," i.e. used in prior studies), and unacknowledged republication (reprinting the same article with a different title without acknowledging the prior publication). Stewart and Feder cite the pressure to publish and competition for research grants as common pressures to commit scientific fraud.

Below is a list of categories of dishonest practices in science.

Lapses from generally accepted standards (Stewart and Feder, 1987; Sigma Xi, 1986)

Type A: carelessness

1) errors (numerical, computational, etc.)
2) inconsistency with previously published data
3) failure to retain list of subjects used
4) honorary authorship

Type B: more serious errors

1) Dishonest data management
   a) Trimming: smoothing irregularities to make data look accurate
   b) Cooking: retaining only those results which fit the theory and discarding others
   c) Forging: fabricating some or all of the data reported, and reporting experiments to obtain these data that were not performed.
2) misleading statements, making replication of the study impossible
3) republication of very similar articles with different titles
4) failure to acknowledge use of historical controls (used in prior studies)
5) failure to take appropriate action after receipt of a complaint that a colleague may be involved in questionable data collection
6) plagiarism

Type B errors seem more serious because of the implied intention to deceive. Feinstein (1988) draws a distinction between deliberate and inadvertant deception. As described by Feinstein, an indadvertant deception is one in which the data have not been fabricated but have been subjected to distortion or delusion. Distortion may be in the form of inaccurate observations or biased comparisons (i.e. biased data leading to incorrect conclusions). Delusion refers to flawed interpertation of the findings (i.e. biased interpretation of potentially unbiased data).

An example of a distortion cited by Feinstein is the finding the survival rate of cancer patients is higher among patients receiving surgery than among those who do not. This is a biased comparison because "the criteria for 'operability' give the surgical group a better pretreatment prognosis." An example of a delusion is the

cont'd on page 5

Scientific Honor

-from page 4

interpretation of the finding that industrialization is correlated with higher rates of cancer. The interpretation that industrialization causes cancer is biased since there is no evidence for a direct causal relationship.

Feinstein cites three forces behind the production of distortions and delusions: "1) the urge to believe what we want to believe, 2) an unwillingness to accept what is contrary to our beliefs, and 3) an abhorrence of anything that suggest we have been wrong or done harm."

The scenario of the third year student detailed above exemplifies several of these points. Both the student and her supervisor were under pressure to publish. Her supervisor had a strong desire to believe his hypothesis even in the face of conflicting data and refused to believe the hypothesis could be wrong. These beliefs fueled his attempt to distort the data. Whether this distortion was due to a lack of statistical knowledge or intentional deception is not clear; however, the attempt to selectively throw out data points (data trimming and cooking) without detailing that procedure in the methods section is certainly misleading and would be a Type B error in the Stewart and Feder classification.

What should be done about scientific fraud? Should there be governmental regulation and external review, or should the research community be allowed to continue policing itself through peer review? I support the latter option, however the scientific community has treated "whistle-blowers" poorly in the past (Kuznik, 1991). I agree with Stewart and Feder that "self-regulation is a privilege that must be exercised vigorously and wisely, or it may be lost." The scientific field is currently open to researchers at all levels. Perhaps we can keep it that way by remaining honest in all of our contributions and by not tolerating others who do not.

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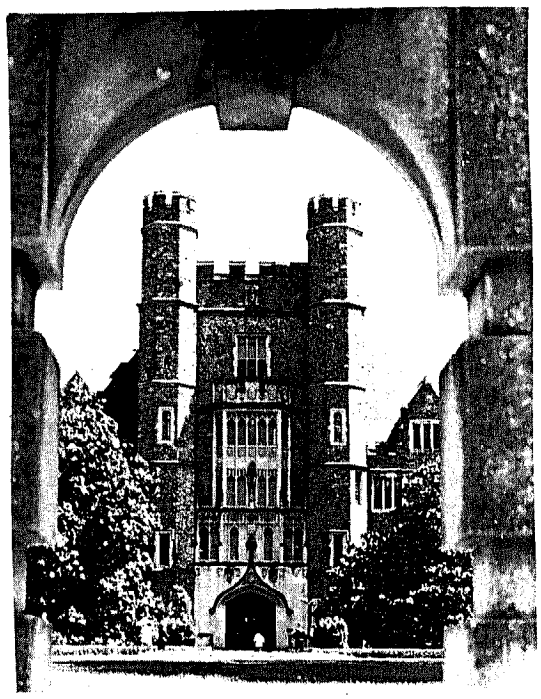
Feinstein AR. Fraud, Distortion, Delusion, and Consensus: The Problems of Human and Natural Deception in Epidemiologic Science. Am J Med 1988;84:475.

Honor in Science. New Haven: Sigma Xi, 1986.

Kuznik F. Fraud Busters. The Washington Post Magazine 1991; April 14:22.

Stewart WW, Feder N. The integrity of the scientific literature. Nature 1987:325;207.



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Editor's apology: Melissa Corcoran's name was accidentally ommitted from the last issue

USMLE To Muscle Out FLEX by 1992

Dr. Emil Petrusa

What is USMLE? The United States medical licensing exam (USMLE) is a new three-part testing series that will be part of the licensing of physicians in the United Sates and U.S. territories. New tests are being developed for Steps 1, 2 and 3. Step 1 will focus on basic science information and is generally intended to be taken after courses in the basic sciences. Step 2 will cover core clinical information and is generally intended to be taken after the core clerkships. Step 3 will address more advanced clinical information and will be taken after graduation from medical school. Each test will have new questions that are developed from an integrated, non-discipline, non-specialty oriented perspective. Thus, there will be no sub-scores in microbiology and surgery for example. All three steps must be passed in order to be licensed. The USMLE will replace National Board exams and FLEX which are now used for licensure.

Whom does this affect? All U.S. medical students entering medical school in 1990 or later must pass the three Step tests of USMLE to be licensed. Medical students entering in 1989 or earlier may be affected depending on their anticipated date of graduation. FLEX I and II will no longer be available after December, 1993. Therefore, any medical student who will graduate after December, 1993 will need to pass Steps 1, 2 and 3 to be licensed. M.D./Ph.D. students and students who have taken a leave of absence or have required extra time to complete all medical school requirements will come under USMLE policy if they graduate after December, 1993. Students who graduate in time to take FLEX in June or December, 1993 should take it in North Carolina immediately upon graduation and transfer their scores to the state in which they undertake their residency training. Dates for administration of the licensing exam are as follows:

USMLE:		
Step 1	June 9-10, 1992	Sept. 22-23, 1992
	June 8-9, 1993	Sept. 21-22, 1993
Step 2		Sept. 24-25, 1992
	March 30-31, 1993	Sept. 23-24, 1993
	March 29-30, 1994	Sept. 29-30, 1994
Step 3	June 21-22, 1994	Dec. 6-7, 1994
	June 20-21, 1995	Dec. 5-6, 1995

FLEX:		
Part I	June 11-12, 1991	Sept. 4-5, 1991
Part II		Sept. 25-26, 1991
	April 2-3, 1992	

Recommendations for Duke students and faculty: A task force comprised of faculty from basic science and clinical departments, medical students and deans was appointed by Dean Graham to review the new USMLE requirements and make recommendations on how Duke should respond to them. Dr, Graham has approved all of the task force's recommendations.

The task force recommendations:

1. That there should be no curricular requirements for USMLE scores. Students should take the Step Exams when they feel best prepared. Performance on the tests will have no bearing on progress through Duke curriculum.
2. That a study of the performance on Step 1 and 2 questions be conducted with a sample of Duke students from each year of medical school to indicate to students, faculty and administrators how our students might fair.
3. Unless these data reveal unexpected results, students should take Step 2 after completing their core clerkships (September), and Step 1 at the end of their third year (either in March or June), and Step 3 after graduation.
4. That a standing committee be formed with representatives from each department and students to monitor students' performance and changes in USMLE policy.
5. That all teaching faculty, particularly course directors and clerkship directors take USMLE Step 1 and 2 questions so that they might better understand what will be tested and therefore, be better able to judge how well the Duke curriculum will prepare our students.
6. That a course be offered during the third year to help students review basic science information and prepare for their Step 1 exam.

A number of actions will be taken to assure that students are fully informed about this new licensing series. A meeting with first year students is planned. A letter indicating USMLE policies and implications for Duke students will be sent to all currently enrolled medical students and faculty, including M.D./Ph.D. students who are studying off campus. Finally, a fact sheet will be prepared and available in the Registrar's office and from advisory deans.

Cultural Calendar

Art Exhibits

Tactile Art Gallery. May and June: Folk art by Clyde Jones in the Cornea Waiting Area of the new wing of the Eye Center. Open for visitors Monday mornings and Tuesday and Thursday afternoons. The gallery features touchable arts for the visually impaired. Call 684-2027 to arrange a visit.

Mars Exhibit Cases in Duke North. May: Photographs by Humphrey Kendall and a Lupus Benefit featuring paintings by Arron Michael Moore III. June: Winners of the Duke Employee Arts and Crafts Exhibit and the American Dance Festival Exhibit. July: Paintings by medical student Lisa Oakley.

Rausch Exhibit Case in Duke South. May: Duke Children's Miracle Network Telethon Exhibit. June: Handcrafted Mirrors by Kate Murphy.

Music

5/22 12pm Celtic Harp in the Sarah P. Duke Gardens (rain site—Duke North).

6/14 12pm Ciompi Quartet in the Sarah P. Duke Gardens (rain date—6/19).

6/20 12pm Chuck Davis dance demonstration in the Sarah P. Duke Gardens.

Daily 12:30-1:30pm the Flentrop Organ in Duke Chapel is played.

Literary Lunchtimes

Fridays 12pm Room M133 Green Zone (Dean's Conference Room). Call 684-2027 for copies of the short stories.

5/10 Poet Michael McFee will read.

5/17 "Watching Her Die" by Reynolds Price.

5/24 Poet James Seay will read.

5/31 "Slawkenbergius's Tale" by Laurence Sterne.

6/7 Poet Richard Robeson will read.

6/14 A. J. Mayhew will read one of her short stories.

6/21 Open reading.

Special Events

5/16 6pm Cameron Indoor Stadium: Service Awards Banquet honoring 10, 15 and 20 years of service to DUMC.

5/30-5/31 8pm Page Auditorium: "Let's Celebrate! The Future Is in Our Hands" Duke Employee Show. Call 684-2027 if interested in working behind the scenes.

6/5 9:30am-3:30pm Perkins Library Quad: Duke Employee Arts and Crafts Celebration.

THE DUKE MEDICAL ALUMNI ASSOCIATION

supports you by offering:

social functions

Medical Alumni Host Directory

Medical Alumni Scholarship Fund

School of Medicine Merit Scholarship

student bulletin board

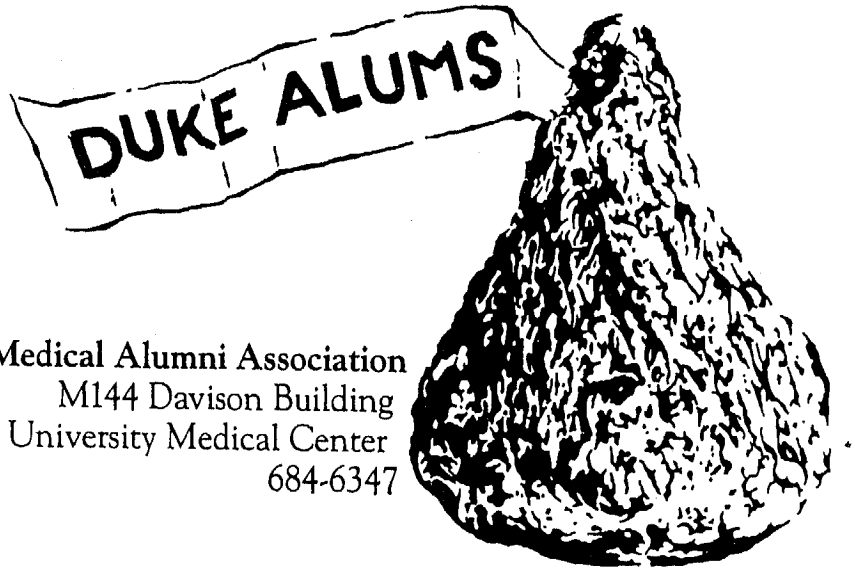
Annual Fall Pig Picking

"Preparing for a Residency" workshop

Davison of Duke

Perspectives

and, of course, the Candy Jar



Medical Alumni Association
M144 Davison Building
Duke University Medical Center
684-6347

Alternative Dispute Resolution

Holly Lisanby

Jeff Rice, MD/JD candidate, participated in the NC Medical Malpractice Research Project investigating Alternative Dispute Resolution (ADR). ADR is an attempt at restructuring the way malpractice cases are handled with the goals of reducing costs and court time without sacrificing fair judgement.

In Phase 1 of the project, the team investigated the way malpractice cases are handled in NC. They examined 938 malpractice cases and reviewed the insurers claim files. The findings are tabulated below:

average time to resolve case	22 mo.
percent of cases going to trial	9-13%
average duration of trial	5 1/2 days
court costs	$2500 per day
cases won by plantiff (patient)	15%
average award settlement	$48,000
plantiff's attourney's fee	33-40% of award
defense attourney's fee	30% of award

By careful analysis of the current malpractice system in this state, the project investigators determined this system to be inefficient with high costs and slow progress. The system is inequitable since very few people who are injured actually make it to trial and even then jury verdicts are variable.

Attempts to remedy this situation have included variations of mediation, arbitration, and expert screening panels. Phase 2 of the project employed some of these concepts to develop a new system of Alternative Dispute Resolution. The ADR group evaluates each claim of malpractice and then recommends mediation (a nonbinding compromise), arbitration (similar to a trial), or a jury determined settlement (JDS).

The goals of JDS are to increase the efficiency of a jury trial within the bounds of substantive law. JDS is an abreviated, binding, nonappealable procedure before an eight member jury. The length is limited (average is 2 1/2 days) and the amount of evidence that may be presented is controlled. Controlling the amount of evidence cuts down on the "battle of experts," or the practice of calling numerous expensive expert witnesses. A range for the amount of award (defined risk allocation) is defined prior to the JDS. The two parties negotiate the maximum and minimum values for the settlement and the jury is not aware of these totals. Jurors are prescreened to speed up the progress.

The advantages of ADS include retention of a jury, negotiation over max/min of the award, decreased time, guaranteed trial date (a mutually convenient time may be scheduled), and privacy (no publicity). A disadvantage is that each party pays their own costs, but with the abreviated trial and defined risk allocation, the total should be less. ADS is a step towards addressing the malpractice problem. Further research into alternative systems and collaboration between physicians and lawyers may help find a solution to the malpractice dilemma. To join the Duke Society for Medical-Legal Affairs, contact Cliona Robb at 383-6955 or Fern Feil at 382-2891.

Help for Victims of Abuse and Rape

Holly Lisanby

The Orange/Durham Coalition for Battered Women operates a shelter housing women and children who are abuse victims and conducts numerous groups for men, women, and men who have abused their partners. To refer your patients who are the victims of abuse or rape, contact the Coalition for Battered Women at 489-1955 or call Helpline at 683-8626. Also, don't forget to take a history of sexual trauma and abuse in all complete histories and physicals. Patients won't volunteer it; you have to ask.

Statistics about rape (compiled by the Rape Crisis Center of Durham, 1989)

- one out of every 3 women will face rape in her lifetime
- 70-75% of rapes occur between acquaintances, 94% of adolescent rapes occur between acquaintances
- 47% of rapes occur in the victim's home
- only 1 out of 7-10 rapes are reported, and of those only 8% make it to court
- only 2% of rapes are falsely reported, the same rate as other felonies
- in 1987 the rape rate in Durham rose over 47%
- one in 6 women are sexually assaulted during college
- the law in NC states that husbands cannot be accused of raping their wives

Free E-Mail

Holly Lisanby

Any medical student can get a free mail account from the Duke Center for Academic Computing. This mail account enables you to send electronic mail (E-Mail) to any E-Mail address. Using "bitnet" (also free) you can send E-Mail to any computer user address at universities across the world. To receive your free account, you should call Academic Computing at 684-3695, or stop by the consulting office in room 136, North Building, Research Drive to pick up a form to fill out. Your userid will be created by 1:00pm the next day after receipt of the form.

Once you have received your userid, you can logon to the DukeMVS (TSO) computer from terminals at various clusters across campus or from your PC at home if you have a modem and communications program. Steps to logon are listed below:

1) set the parameters in your communications program to: 7 bits, 1 stopbit, even parity, full duplex, terminal emulation VT100

2) dial 684-8552 by typing "atdt6848552"

3) You will receive a message welcoming you to the Equinox dataswitch. Type "dacibm" in response to the "Destination" prompt.

4) Type "VT100" in response to the "terminal type" prompt.

5) You will be asked for your userid and password. Type these in and you will see the "Ready" prompt when these are accepted by TSO.

6) Type "Help mail" to receive instruction in using mail functions.

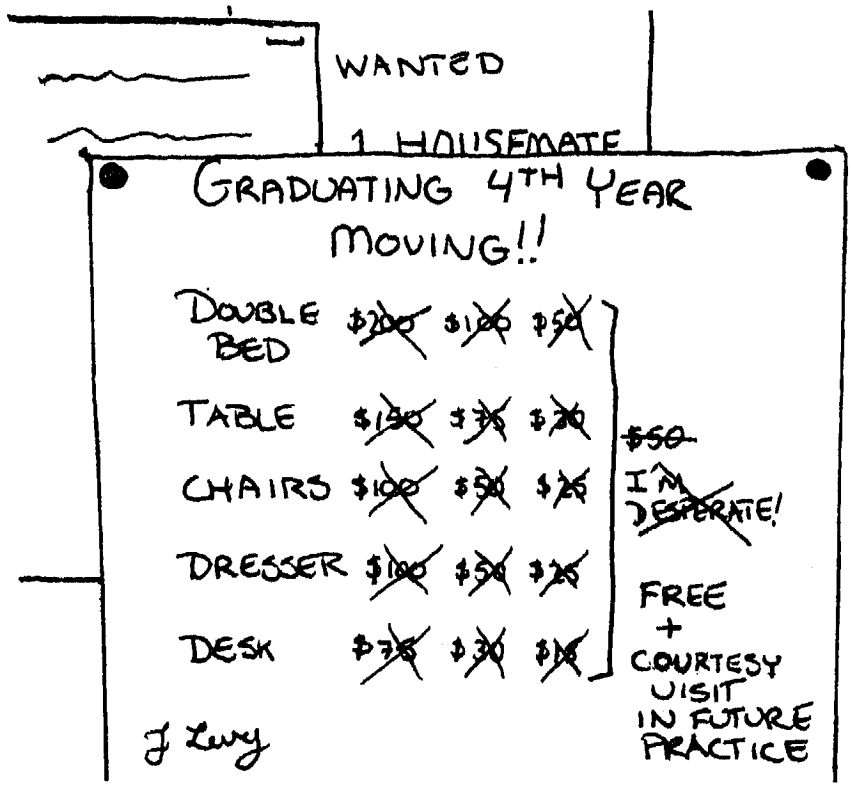
7) Enter the mail function by typing "M."

8) To send a message type "send _____" (fill in blank with userid)

9) To retrieve messages type "R __" (fill in blank with message number)

10) Type "end" to exit the mail function and type "logoff" to terminate a session on TSO.

11) Send mail to me in TSO at "Lisanby" or use my full userid "Lisanby@DukeMVS.AC.Duke.Edu" from any other computer system. Happy computing!



Library Access

To access the library online catalogue of books, you do not need a userid. Use the above instructions for dialing the Equinox dataswitch at 684-8552 and type "Library" at the "Destination" prompt. Then use the online search functions as you do in the library (au - author search, su - subject search, ti- title search).

Research in the Third Year: A Profile

Yoshi Murata

Yashi Ahmed is an MD/PhD student who has been working for two and a half years in the laboratory of Dr. Warner Greene, Professor of Medicine and Microbiology/Immunology. Yashi's project focuses on the regulation of human T-cell leukemia virus (HTLV-1) gene expression.

The retrovirus HTLV-1 is the causative agent of adult T-cell leukemia (ATL), an aggressive malignancy of CD4+ T lymphocytes that is endemic to southern Japan, the Caribbean basin, subsaharan Africa and the southeastern United States. Clinical manifestations of ATL include leukemia, lymphadenopathy, skin lesions, hypercalcemia and hepatosplenomegaly. In addition, HTLV-1 has recently been linked to neurological diseases known as HTLV-1 associated myelopathy (HAM) and tropical spastic paraparesis (TSP). The exact mechanisms by which HTLV-1 causes disease are currently unknown.

The molecular biology of HTLV-1 has been the subject of intense research over the last several years. The HTLV-1 genome contains the gag, pol and env genes that are required for retroviral replication, as well as two regulatory genes, tax and rex. The Tax protein is thought to play a key role in the viral transformation of T cells by activating the transcription of interleukin-2 (IL-2), the alpha chain of the IL-2 receptor and the c-fos proto-oncogene. In contrast, the Rex protein does not appear to be involved in transcription of cellular genes. Instead, Rex augments the expression of viral structural (gag, env) and enzymatic (pol) genes by increasing the cytoplasmic expression and subsequent translation of gag, pol and env mRNA's. Without rex, these mRNA's remain within the nucleus and are processed by splicing or undergo degradation. Rex action on mRNA is mediated by a large RNA stem-loop structure called the Rex response element (RexRE) that is located at the 3' end of all HTLV-1 mRNA species.

The role of RexRE in HTLV-1 gene expression has been the major focus of Yashi's research. In collaboration with others in Dr. Greene's laboratory, Yashi has found that a specific subregion of the RexRE is critical for Rex function. By analyzing mutations within this subregion, Yashi has shown that the nucleotide suquence and RNA secondary structure of this region are necessary for Rex action. This region within the RexRE has now been shown to serve as a binding site for the Rex protein or cellular RNA-binding proteins.

Recently, Yashi has discovered that RexRE is involved in the 3' processing of HTLV-1 mRNA. All mRNA undergo 3' processing by cleavage of unnecessary nucleotide sequences and addition of a poly (A) tail (polyadenylation). These processes are controlled by a polyadenylation signal and a 3' end cleavage site (located within 30 nucleotides downstream of the polyadenylation signal) at the 3' end of mRNA. However, the HTLV-1 3' cleavage site is more than 250 nucleotides downstream of the polyadenylation signal. Yashi and others have now shown in a paper published in *Cell* (1991) **64**: 727-38 that the stem-loop structure of the RexRE brings together the polyadenylation signal and the 3' cleavage site. Consequently, the RexRE structure enables the binding of cellular factors that are essential for mRNA 3' processing. The secondary structure of RexRE is critical for polyadenylation but the Rex protein appears to be nonessential.

Yashi's work has contributed to our understanding of HTLV-1 gene expression. In addition, her work may have implications for insights into the replication and pathogenesis of HIV, since HTLV-1 and HIV possess similar regulatory mechanisms of gene expression. Further analysis of Rex-RexRE interactions may lead to possivle therapeutic approaches to diseases caused by HTLV-1.

Computer Interest Group Activity

Michael Weiner

Come learn about the latest techniques used in radiologic imaging at DUMC. On Wednesday, May 22, at 12:00 noon, the Students' Computer Interest Group will host Dr. Allan Johnson, a professor in radiology's division of imaging, as he leads a tour and discussion of DUMC's modern imaging facilities. Radiology will play a role in whichever specialty you choose, and your family will expect you to be an expert! Seriously, we expect this session to teach us about an important and practical aspect of medicine. If you would like to attend, call Mike Weiner at 286-3147. All are invited, but we need your reply by May 19. We hope to see you there.

Dear E Bach

Dear E Bach,

The fourth year students are graduating with M.D.s, leaving you behind to ponder your fate. Don't you feel bypassed or in any way regretful that you are not among us? Give us something to cling to in our hectic schedule. Your situation lends itself to considerably more introspection and profundity.

Call me doctor

Dear Doc,

Alright, you chumps may be rising to academic stardom, but I am CPR certified and carry one hell of a B.S. from an Ivy League institution. Yes, I feel as though an era has passed, and I would like to offer you a salutation for your intellectual fortitude and integrity.
This should be read while humming "Pomp and Circumstance."

As you graduate from these hallowed environs, betrothed to your opportunity to serve and mindful of your noble responsibilities, live by these pearls every day and fulfill your chosen destiny....

Carpe Diem—you see, life is meant to be embraced and fondled, but not abused. Some famous sage made the analogy that life is like a gonad. Your interpretation will be specific for your gender.

Eruditio et Religio—although some first year coined the phrase "Eruditio et Emphysemio," Duke's history and endowment leave you in a tradition of greatness.

Tierra Del Fuego—see the movie "Fletch."

C'est la vie—how else can we explain our schedules?

Voulez vous coucher avec moi, ce soir?—great pickup line.

Age before beauty—this is for you bright-eyed first years. Remember this adage.

E BACH'S PERSONAL ADAGES:

Whenever possible, drink the hometown brew. You can never impair your class status by patronizing your favorite local brewery. Please drink out of glasses now. You are physicians and cans are strictly forbidden.

Take stock in friends. They are the only high-yield, sure-fire investments.

It's not how you feel, but how you look that is important.

Beware drug reps bearing gifts.

Get that handicap in the single digits.

When in doubt, sleep. It's a guaranteed panacea for doubt, gout, consumption, evil bodily humours and champagne hangovers. Some of my most enjoyable moments have been spent sleeping. Nice life, Bach.

No pain, no gain.

Train, don't strain.

I'm really confused about those last two. Anyway, live a life of non sequiturs. Most people will try to make sense of babbling streams of consciousness. Makes you look sophisticated.

Never hit a lawyer in anger, unless you are absolutely sure you can get away with it.

In closing, I would like to remind you that you, too, were once a lowly med student. Try to get your studs into the red eye or equivalent. Be nice to fourth year students, because I may well be apprenticed under you after I finish this loathesome seven year program.
I welcome your letters in the future from wherever you are. May the wind be always at your back, the foliage at peak color and the clock always tolling the 5 o'clock Friday happy hour tone.

As always I remain, and will continue to remain,

Sincerely yours,
E Bach

P.S. Copies of The Best of E Bach will be available graduation weekend, and I will graciously sign copies at the Gothic Book Shop.

Shifting Dullness: Serving the Medical School Community

Holly Lisanby

Shifting Dullness is a medical pun and an apt description of the medical school experience, at least at times. It is also the medical students' only publication. This graduation issue of *Shifting Dullness* marks the close of our fourth year of consecutive production. To commemorate this accomplishment, I would like to review our history and thank the students, faculty, and staff who have made *Shifting Dullness* such a success.

Shifting Dullness was taken as the name for the newly founded publication of the Davison Society in the late '60's. The paper was published on a weekly basis through the early '80's. These early issues contained many future-minded editorials covering the need for teaching the ecomonics of health care in order to reduce health care costs, limiting on-call duty due to concern for the quality of medical care and education, and establishing a task force on aging to respond to the special health care needs of this growing sector of the population. Other topics included minority representation in medicine, health care for the prison population, holistic health, and preventative medicine.

Continuing the tradition of thoughtful and responsible journalism was not a one person task, but the rebirth of *Shifting Dullness* could not have come at a better time. Fall of '87 was the first term of Dean Doyle Graham. By bringing in a group of advisory deans and a confidential counselor for medical students, he sought to inspire the next generation of doctors to take a humanistic approach to medicine. His staff promoted cultural activities, ethical discussions, and other creative ideas to help medical students stay in touch with the human side of medicine. Florence Nash, the Dean's administrative assistant, Janet Sanfilippo of Alumni Affairs, and Linda Chambers and Barbara Gentry of the Dean's office helped grant *Shifting Dullness* a new beginning.

Starting with a staff of six students, larger than any previous *Shifting Dullness* staff, we defined our mission in the first issue dated October 1987:

> "The mission of this newsletter is to serve as the organ of communication among medical students as we learn to interact with peers, professional circles, and patients.... As a service to the meidcal student community, the newsletter is a forum for voicing student opinion, an outlet for creative expression, and a central base for information dissemination."

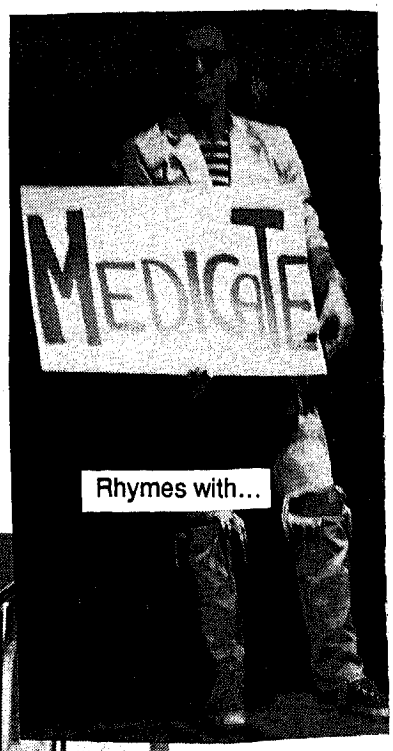
The first issue met with great success and by the second issue the staff had grown to nine members. The monthly issues began to carry editorials on topics in medical ethics, ways to become involved in the community of Durham, and publicity for charity events. Even as our momentum was building, we learned why the publication had dwindled away in the past. We are medical students, afterall. Although we had creative outlets as undergraduates, we were now afraid to take time away from studying. The selling point of *Shifting Dullness* was that it was fun and worthwhile. We were serving a need in the medical school community.

To better serve our community and encourage fellow students to tear themselves away from classes long enough to think about something other than medicine, we expanded the paper to include creative writing, art, poetry, comics, and photography. Through art and poetry, we began to interact with these other members of the medical center community in new and valuable ways. We received a drawing from a plastic surgeon, a poem from an administrative assistant, a paper on drug addiction from a dean, a short story about health care in Africa from a fellow in infectious diseases, and a touching essay about a brave young patient from a fellow in pediatrics. These interactions showed us that our teachers and coworkers had creative and human sides. Exploring creative outlets can broaden our ability to communicate and care as future doctors.

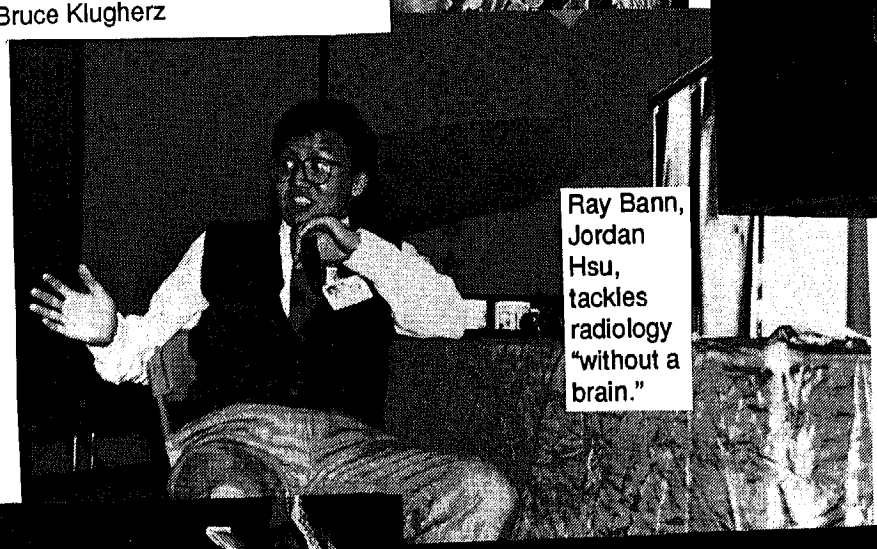
Thanks to the momentum built in our first year of production, the publication survived our busy clinical years and the staff grew. A twelve member staff produced the October 1989 issue, our two year anniversary. Soon we had members representing all four medical school classes and what started as a four page newsletter had grown to 16 pages with a peak staff size of 15. We also expanded the distribution of the paper to include department chairpersons, representatives in the School of Nursing, Physician's Assistant Training Program, Law School, Health Administration, and the Premedical Advising Office. With the help of the Davison Council, an issue was mailed to prospective medical students.

The growth and success of the paper is due to the joint effort of the entire staff and many members of the Dean's office, the Office of Cultural Affairs, and the Davison Council. As outgoing managing editor, I am pleased to inform you that Kenny Boockvar has accepted the position of managing editor-elect. With the dedication of the staff and the enthusiasm of all of our supporters, I am confident that *Shifting Dullness* will continue to serve the medical school community by shaping the minds and hearts of tomorrow's physicians as we seek to understand the human experience in illness and in health.

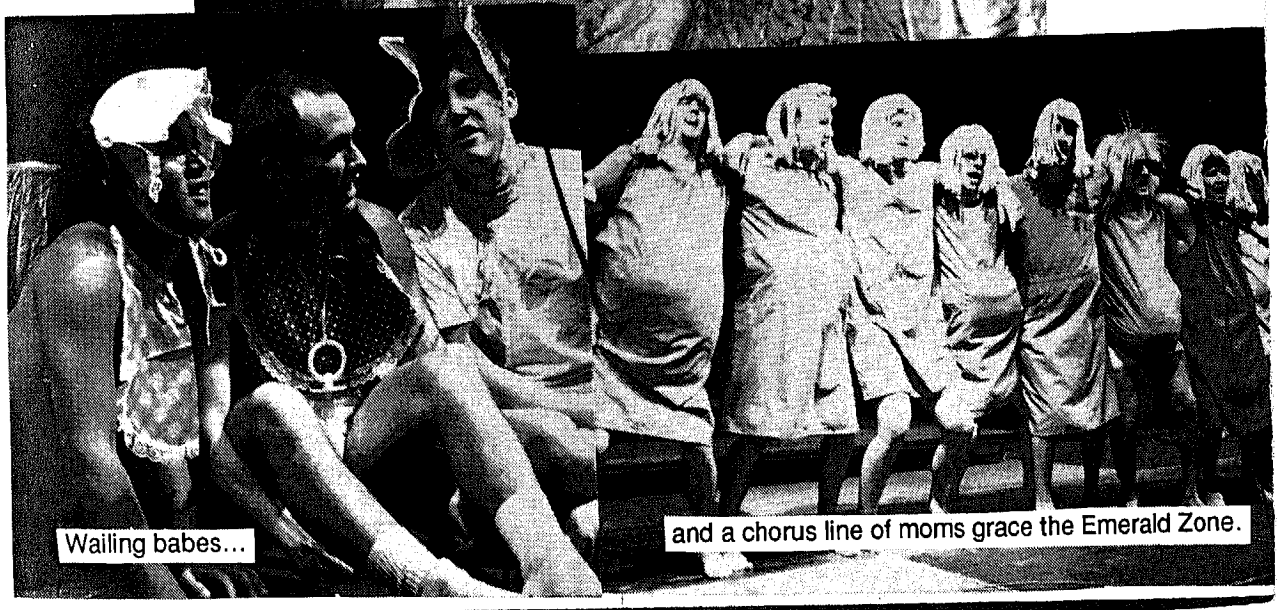
Acappella MSIII's Herb Chen, Jeff Byers, Steven Stasheff, and Bruce Klugherz



Rhymes with...



Ray Bann, Jordan Hsu, tackles radiology "without a brain."



Wailing babes...

and a chorus line of moms grace the Emerald Zone.