

H&P

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Clinical Journal

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The Role of the Physician in Society

Contents

H&P

The Stanford Medical Student
Clinical Journal

Editors-in-Chief

James Colbert
Thomas Tsai

Associate Editors

Clinical
Joanna Wrede
Jessica Yasnovsky

Ethics

Steven Lin

Forum

Malavika Prabhu

Literary Arts

Chantal Forfota
William Slikker

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Front/Rear Photos: Thomas Tsai

clinical case reports

- 3 **Editors' Note**
- 4 **Heterotopic Gastric Mucosa as a Pathologic Lead Point for Ileo-Colic Intussusception**
Sarah Juul
- 7 **A Headache in the ER: Common Presentations of Viral Meningitis**
Bernard Chang

- 10 **Bush's Stem Cell Veto: Ideology before Science, Politics before Patients**
Steven Lin

The Role of the Physician in Society

- 12 **Doctors in the Media**
Lizzy Goldsmith
- 14 **Doctors as Policymakers**
Philippa Soskin
- 16 **Doctors as Scientists**
Michael Bokoch
- 18 **Doctors as Writers**
Alana Frost

ethics

forum

literary arts

- 20 **Mobile Surgery: Bringing the OR to Underserved Populations in Rural Ecuador**
Tracy So
- 23 **Celestial Transit**
Hetty Eisenberg
- 24 **Pediatric Wonders: Scenes from A Childrens Hospital**
Asya Agulnik
- 28 **The House of God: An Interview with Stephen Bergman**
Chantal Forfota
- 28 **In Memoriam: Dr. Larry Mathers**
Anonymous
- 31 **No Snow**
Carolyn Fredericks

Editors' Note

Generations of Stanford medical students don their white coats and stethoscopes each September, transforming from lay persons to physicians. Yet, underneath the uniform sea of white beat eighty-five different hearts, eighty-five different truths. As we discover our individual curricula, research projects, and mentors, we uncover unique passions. Four (or more) years later, we graduate not only as doctors, but also as scientists, policymakers, and writers.

Our forum this issue is entitled "The Role of the Physician in Society," and the four essays we present celebrate the multiplicity of identities that physicians assume in the twenty-first century. In our first essay, Lizzy Goldsmith analyzes the role popular media such as television dramas have had in shaping the public's perception of the physician as a perfectionist. Not only do television actors play the role of doctors, but doctors in real life can also be seen as actors who assume a certain role when they participate in the socially-structured drama of patient care. The next essay we present from Philippa Soskin, who reminds us that the patient-doctor encounter does not occur in the vacuum of the examination room, but in the context of the larger society. In her essay, Philippa argues for physicians to be activists in shaping the policies that affect health care.

Michael Bokoch, a student in Stanford's Medical Scientist Training Program, explores the dual allegiances of the physician-scientist to both research and patient care. Michael's piece raises important questions about the value of giving doctors a thorough grounding in the molecular foundations of medicine. Finally, while the media portrays the physician in her traditional role with stethoscope in hand, Alana Frost examines the role of the physician with pen in hand. Writing and publishing are not only intrinsic to the clinical and scientific practice of medicine, but they are also intrinsic to the physician as a historian. This duality of medical writing,

of both the scientific and the creative, forms the foundation of *H&P*.

In this issue we also present case reports on intussusception and viral meningitis, representing the clinical insight of Sarah Juul and Bernard Chang. Steven Lin's ethics discussion of federal stem cell policy exhibits the impact policy directly has on medicine. In the Literary Arts section, Tracy So's photoessay illustrates her experiences in performing surgery in a rural Ecuador, while Asya Agulnik's photographs bring to life scenes of pediatric practice. Chantal Forfota's interview with Stephen Bergman, author of *The House of God*, provides new insight to Bergman's classic medical novel. Taking up the call of humanism in medicine, Hetty Eisenberg and Carolyn Fredericks share with us their creative works of poetry and short fiction.

This year we mourn the loss of Dr. Larry Mathers. Not only was Dr. Mathers our much-beloved anatomy teacher, but he was also a well-respected pediatrician at Lucille Packard Children's Hospital and a skilled pianist who brought smiles to patients and visitors with his performances in the atrium of Stanford Hospital. As this issue explores the theme of the physician's role in society, we are reminded by Dr. Mathers' life that the most important role of a physician is in service to others. We as a community are lucky to have benefited from his wisdom, humor, and joie de vivre.

As we begin our clinical training, we leave *H&P* in the very capable hands of Chantal Forfota and Malavika Prabhu. In his account of a rural English physician, author John Berger posits the role of the physician as the clerk of his community, charting the ups and downs, health and sicknesses of his patients. It is our hope that these pages will likewise continue to serve as a chart, not of an individual patient, but of a community—recording the vitality of the medical students of Stanford.

James Colbert
Thomas Tsai

The title H&P reflects the importance of the basic history and physical examination in clinical medicine in every corner of the world. It also represents Hygeia and Panacea, two daughters of Asclepius. In Greek mythology, Hygeia is the goddess of welfare and the prevention of sickness, while Panacea is the goddess of healing and cures. We believe that these figures represent the two facets of our medical education—to treat and cure illnesses while promoting the welfare of our patients by preventing disease. H&P also reflects the new mission of our journal—as the daughters of Asclepius, Hygeia and Panacea represent a new generation.

The title H&P embodies the journal's commitment to the education of clinical medicine while reflecting the challenges of modern medicine through the lenses of both prevention and treatment. Therefore, we see the opportunity for H&P to become a student forum for the "exercise of the human skill and intelligent sympathy" that inspired the construction of Lane Hospital a century ago.

Heterotopic Gastric Mucosa as a Pathologic Lead Point for Ileo-Colic Intussusception

Sarah Juul

ABSTRACT

Intussusception is uncommon in older children and adults and is mainly secondary to gastrointestinal lesions, or “pathological lead points,” in this population. This case from pediatric surgery relates the presentation and treatment of an otherwise healthy twelve year-old male who was found to have an ileo-colic intussusception on a laparotomy performed for presumed appendicitis. Illustrated here is a rare example of a pathological lead point, heterotopic gastric mucosa distal to the ligament of Treitz, in a patient without associated congenital anomalies. This report discusses the differential diagnosis of pathologic lead points causing intussusception, diagnostic modalities, treatment, and follow-up of these patients.

Introduction

Heterotopic gastric mucosa (HGM), or gastric mucosa in an abnormal location, has been described at various sites within the human body, including all levels of the gastrointestinal system from the tongue to the anus, as well as in the mediastinum, scrotum and spinal cord.¹ Within the gastrointestinal system, HGM is rarely found distal to the ligament of Treitz and occurs rarely in the small intestine without other associated anomalies, such as Meckel’s diverticulum or duplication.² In fact, a review of the medical literature beginning in 1980 yielded only 19 pediatric cases with HGM of the small intestine in patients without congenital anomalies. The age of patients with HGM ranged from three weeks to 43 years, with most patients presenting before the age of 16 years.^{2,3} HGM of the small bowel has been reported to present with recurrent GI bleeding, intestinal obstruction, or perforated ulceration.^{4,5} In some cases, HGM can act as a lead point for intussusception, an event that has been described a handful of times in the medical literature.

Intussusception occurs primarily in small children and is rare in pediatric patients older than six years of age or adults. In older children, intussusception is most likely to be secondary to lesions of the small bowel which act as “pathologic lead points.” Lead points are lesions that draw the proximal intestine and its mesentery inward and propagate them distally through peristalsis. These lesions most commonly include Meckel’s diverticulum, Henocho-Schonlein purpura, and tumors such as Peutz-Jeghers polyps and lymphosarcoma.⁵ Intussusception can also be associated with pathologic processes that cause thickening of the bowel like celiac disease or cystic fibrosis.⁶ The following case from pediatric surgery illustrates an example of HGM as a rare and unexpected cause of intussusception in a twelve year-old male.

Case Report

A twelve year-old previously healthy Asian-American male presented to the emergency department with four days of abdominal pain, anorexia, loose stools, and multiple episodes of emesis. He localized his abdominal pain to the epigastric region and right upper and lower quadrants. He had been seen by his primary medical doctor on the first day of his symptoms, at which time it was recommended that he start an antacid. Notably, he had also developed rectal bleeding the night prior to admission which was bright red in appearance. His mother reported no recent travel history or changes in diet and denied any history of constipation or hemorrhoids. Further questioning elicited a visit to a gastrointestinal specialist six months prior for similar symptoms, which spontaneously resolved after a week. He was referred to a psychologist at that time, as there was some concern that his symptoms might be related to psychological stressors. The patient’s family history was unremarkable.

Physical examination revealed an ill-appearing but well-nourished young male with flushed facies. At the time of examination, the patient was afebrile but tachycardic, with a heart rate greater than 120 beats per minute. He was somewhat somnolent and difficult to arouse. A head and neck examination was otherwise unremarkable, as was a cardiovascular and pulmonary examination. His abdominal examination was notable for tenderness in the epigastric region and right upper and lower quadrants, as well as for voluntary guarding. He also had hypoactive bowel sounds and a distended and tympanitic abdomen. A rectal examination was negative for fissures or hemorrhoids, as well as for gross blood or melena.

Laboratory evaluation demonstrated an elevated white blood cell count of 18,900/mcl (normal range 4,500 to 13,500/mcl) and mildly elevated platelets of 414,000/mcl



Figure 1: Normal ileum (H&E, 100x) demonstrating all layers of the intestinal wall: mucosa, submucosa, muscularis externa, and serosa.

(normal range 150,000 to 300,000/mcl). A hematocrit was 45.4% (normal range for age and gender 40 to 54%). Chemistry panel was remarkable for a sodium of 127 mEq/L (normal range 133 to 146 mEq/L) and chloride of 88 mEq/L (normal range 98 to 107 mEq/L). Urinalysis was unremarkable. An ultrasound scan was done in the emergency department and was read as suspicious for appendicitis with an enlarged, non-compressible appendix measuring 8 mm with free fluid in the abdominal cavity.

Based on the patient's history of abdominal pain and anorexia, elevated white blood cell count, and an ultrasound consistent with appendicitis, the patient was taken to the operating room for a laparoscopic appendectomy after being given a dose of Cefoxitin. On laparoscopy, there was relatively clear ascites, a normal appendix, and a large mass in the cecum consistent with an ileo-colic intussusception. In addition, the bowel was significantly distended proximal to the obstruction. The intussusception was not reducible laparoscopically, and the case was converted to a laparotomy. Once converted, the diagnosis of an irreducible ileo-colic intussusception extending halfway up the right colon was confirmed. An ileo-colic resection was performed and the surgeon ran the bowel before performing the anastomosis. At this time, an antimesenteric nodular mass measuring 1.5 cm was found in the ileum about six inches from the staple line. This was resected and sent for pathologic evaluation (see Figures 1 – 3). The anastomosis was then performed, and no further abnormalities were found on inspection of the remainder of the abdominal contents. The family was informed of the findings from the procedure and a differential diagnosis was discussed, which included lymphoma, hemangioma, and polyp.

In the post-operative period, the patient recovered well without complications. He had sanguinous output from his nasogastric tube on post-operative day #1 and remained

NPO. By post-operative day #3, his nasogastric tube had minimal residuals, and the patient was complaining of hunger. The nasogastric tube was pulled at that time and his diet was advanced. Cefoxitin was continued throughout his four-day hospital stay but was discontinued on discharge. At the time of discharge, the patient's white blood cell count had returned to normal, and he was eating and drinking without difficulty.

The pathology report described the resected ileal mass as a polypoid mass measuring 2.5 cm by 3 cm that was composed of ectopic gastric mucosa. Twelve mesenteric lymph nodes with reactive follicular hyperplasia were also described. The bowel at the region of the intussusception was found to have secondary ischemic necrosis and the appendix was normal in size with no significant abnormality.

Discussion

As mentioned previously, intussusception is relatively uncommon in older children and adults. Diagnostically, it is a challenge due to its varied and often nonspecific presentation and diverse range of causes. The classic triad of abdominal pain, vomiting, and bloody stools is only seen in 20 percent of children presenting with intussusception.⁸ Sonography is a commonly used modality in the initial work-up of these patients. However, as this case suggests, it does not detect all intussusceptions or underlying pathologic lead points.⁶ Intussusception can be recurrent, particularly in the presence of a lead point, and is likely to have been responsible for our patient's history of similar symptoms six months prior to presentation.⁸

The etiology of HGM is not well-understood. It has been hypothesized that these lesions may arise from the epithelium of the primitive gut as congenital anomalies which then become separated from the primordial stomach and undergo hyperplasia with time.⁴ Other authors believe the abnormal gastric mucosa arises by metaplasia from existing or neoplastic intestinal epithelium. On gross inspection, HGM appears as a polypoid or nodular mass of up to 3 cm in diameter or as a rugose mass of up to 17 cm in length.⁵ These lesions can be found throughout the gastrointestinal tract but are most commonly found in a Meckel's diverticulum. HGM can also be found in association with duplication cysts.² In the case of intussusception, there is often associated follicular lymphoid hyperplasia which can also act as a lead point.⁵

Of the various diagnostic modalities for localizing HGM, the gold standard is ^{99m}Tc pertechnetate scintigraphy. This modality measures the uptake and secretion of ^{99m}Tc pertechnetate by the tubular glands of gastric mucosa and is particularly useful in regions distal to the ligament of Treitz where localization by endoscopy is difficult.⁴ A positive scan does not have the specificity to determine the size and exact location of the mass, but it can be used for initial detection or follow-up and decisions regarding laparotomy.² Endoscopy, particularly newer methods such as video capsule endoscopy, can also be used for diagnosis.² Barium studies of the small bowel may show a polyp-

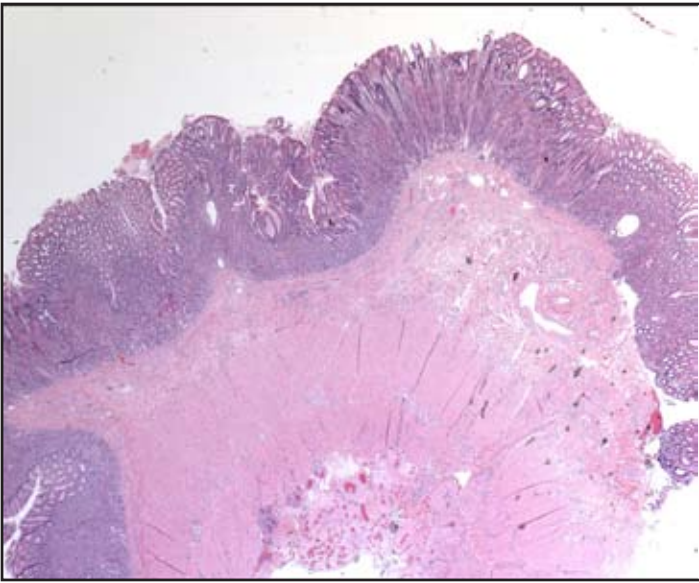


Figure 2: Ectopic gastric mucosa (H&E, 100x). In contrast to normal ileum, the mucosal layer shown here lacks villi and crypts of Lieberkuhn. Gastric glands and pits are visible within the mucosa.

oid filling defect as well as an associated intussusception if present. Definitive diagnosis, however, is made by histological analysis.⁵

Treatment is primarily via resection of the affected portion of bowel. Barium enema can act as both a treatment modality and a diagnostic tool, as up to 50 percent of intussusceptions will spontaneously reduce with an enema.⁶ However, the HGM acting as a lead point will require resection. Involvement may be diffuse and therefore symptoms may recur after surgery, as has been described in the literature.⁴ In patients with a history of ulceration, proton-pump inhibitors should be considered for preventing further episodes. Periodic screening with repeat hemoglobin/hematocrit levels and fecal occult blood tests may be useful for monitoring for recurrence.⁴

In the case of our patient, diagnosis of the intussusception and definitive treatment of the focus of HGM was performed in the operating room. To our knowledge, the patient has had no further complications since discharge but will receive one-month follow-up at the pediatric surgery clinic. We believe that he had a single focus of HGM, which was surgically excised, and is for that reason unlikely to have any recurrence of his symptoms.

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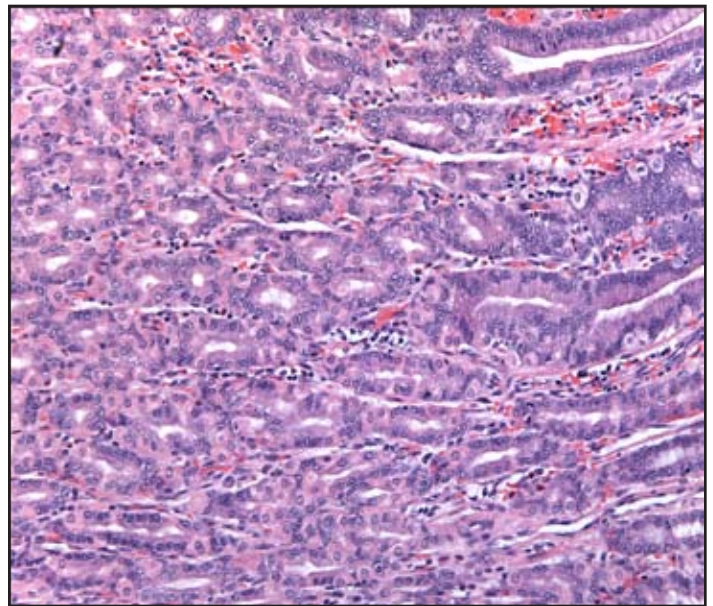


Figure 3: Ectopic gastric mucosa (H&E, 200x). The gastric pits and glands are well-visualized here. The pits are lined with mucus-secreting simple columnar epithelial cells. Parietal cells are the large eosinophilic cells that line the walls of the glands.

A Headache in the ER: Common Presentations of Viral Meningitis

Bernard P Chang

ABSTRACT

Viral meningitis is a relatively common infectious condition that many clinicians encounter in their practice. In this case, a twenty-nine-year-old man was admitted to the hospital for a two-day history of headache and neck stiffness. The patient endorsed an earlier bout of URI-like symptoms one week prior to the onset of his headache and neck stiffness. Analysis of lumbar punctures revealed findings consistent with viral meningitis and the patient was treated symptomatically, recovering within the week. This report includes a discussion of viral meningitis and its clinical distinction from other forms of meningitis, such as bacterial meningitis.

Introduction

With terms such as “spinal tap” entered into the general English lexicon, meningitis has inspired the fascination and fear of the public. Defined as the inflammation of the meningeal membrane sheath that envelops the brain and spinal cord, meningitis is a relatively common condition seen by physicians. Meningitis affects all age groups, although those most likely to have increased morbidity include the extremes of the age distribution.¹

Depending on its etiology, meningitis may have a completely benign course or a complicated course marked by serious patient morbidity. Thus, the onus is on the physician to use his/her clinical judgment to determine the likely type of meningitis a patient has and the appropriate management.

Case Report

A previously healthy twenty nine year-old man presented to the emergency department of a local hospital complaining of severe headache and stiff neck. The patient stated that approximately one week prior he had a mild “cold” marked by rhinorrhea and coryza. Symptoms had subsided over the course of two days, but two mornings prior to admission, the patient woke up with a dull frontal headache and mild neck stiffness. He described the pain as initially starting in the back of the neck then gradually enveloping his head in a bandlike fashion. The patient took ibuprofen and acetaminophen which appeared to marginally decrease the pain, but the pain continued to increase over the day. Beginning the night prior to admission, the patient noted a tactile fever and diaphoresis. The following morning, when symptoms failed to resolve, the patient presented to the emergency department (ED).

The patient’s past medical and surgical histories were unremarkable, and he did not take any medications other

than the ibuprofen and acetaminophen. The patient denied any sick contacts or recent travel, and was up to date on all immunizations. He also denied any history of migraines or head trauma. Family history was negative for neoplastic or neurologic conditions.

The patient was a social drinker who denied tobacco or illicit drug use. On his review of systems, the patient denied any changes in vision, vomiting, new onset dizziness, or rash. The review of systems was positive for general myalgias. The patient’s initial vital signs on presentation to the ED were a temperature of 100.4 degrees Fahrenheit, heart rate of 98 beats per minute, blood pressure of 128/88 mmHg, respirations of 20 per minute, and O₂ saturation of 98 percent.

On physical examination, the patient was an ill-appearing, alert man in mild to moderate discomfort. The examination was notable for mild nuchal rigidity, negative Brudzinski’s sign, and negative Kernig’s sign. No papilloedema, cranial nerve palsies, focal neurological deficits, or rash were noted on examination.

Given the lack of focal neurological deficits, a lumbar puncture (LP) was performed and revealed an opening pressure of 90 mmHg (normal range 80-200 mmHg), glucose of 68 mg/dL (normal range 60-70% of blood glucose level), moderately elevated protein of 88 mg/dL (normal range 15 to 45 mg/dL), and increased white blood cell (WBC) count of 26 (normal range 0-5) with neutrophil predominance. Complete blood count (CBC) revealed mildly elevated WBC count of 11.2/dL (normal range 4.5-10/dL); a Chemistry 7 panel was normal.

Our initial assessment was that the patient had infectious meningitis, given his acute onset of symptoms, the presence of a fever, and findings on the LP and CBC. However, it was unclear if he had bacterial or viral meningitis given his elevated neutrophil count in the cerebrospinal fluid (CSF). The patient was admitted for intravenous

case report

antibiotics with a repeat LP scheduled for the following morning. Dexamethasone administration was deferred at the time. The patient did well overnight with his pain controlled on oxycodone. On repeat LP, the patient's CSF was found to be unchanged with the exception of an increased lymphocytic predominance. Suspecting a viral cause of the patient's infection, the medical team stopped the antibiotics and switched to supportive management. The patient was discharged to home on oral pain medication and over-the-counter temperature control, and he recovered without complications.

Discussion

This patient demonstrated a "classic" presentation of viral meningitis, namely mild fever of several days' duration, headache, and mild stiff neck. The lack of other physical findings associated with meningitis, such as Brudzinski's and Kernig's signs are actually quite common; past reports have found that only 17 percent of patients with meningitis show such signs, with these symptoms showing poor levels of sensitivity for meningitis (Kernig's sign sensitivity: five percent, Brudzinski's sensitivity: five percent).² Headache, fever, stiff neck, photophobia, myalgias, abdominal pain, nausea, and vomiting often characterize acute viral meningitis. Additionally, at times patients may present with a mild maculopapular rash, suggesting enterovirus involvement. Occasionally, the patient may show focal neurological signs or exhibit altered levels of consciousness.

The time course of acute viral meningitis is variable; onset may occur within hours of infection or more gradually over the course of several days. Usually, patients' clinical symptoms peak within three to six days after exposure to the inciting virus.³

Viral meningitis is a relatively common disorder in the United States. For example, one county in Minnesota reported the incidence of viral meningitis to be 10.9 per 100,000 persons during the years 1950-1981, with most cases occurring in the summer months. In contrast, the incidence of bacterial meningitis in the same population and time frame was found to be 8.6 per 100,000. Similar rates were found in another epidemiological study carried out in Latvia in 2006.⁴

The most common causes of viral meningitis are enteroviruses (particularly coxsackie and echovirus), herpes simplex virus (HSV), and human immunodeficiency virus (HIV). HIV most often causes viral meningitis at the time of seroconversion. Together, coxsackie and echovirus account for almost 50 percent of all cases of viral meningitis.⁵ Transmission of these viruses occur via hand-to-hand contact and to a lesser extent by respiratory and fecal routes. The incidence of these infections peaks during the summer and early fall. While most forms of viral meningitis are relatively benign, HSV (both type 1 and 2) can be a cause of serious viral meningitis particularly in children and infants. Varicella, another herpes virus, may cause meningitis and encephalitis but this mostly occurs in those individuals

who are immunocompromised.

In order to diagnose viral meningitis, the clinician must first consider, and decrease her/his index of suspicion for, other more serious forms of meningitis, such as bacterial meningitis. Symptomatically, both groups of patients often have headache and stiff neck. However, patients with bacterial meningitis often have a higher grade fever and may present with a more "toxic" appearance. The diagnostic tool of choice in determining the type of meningitis in patients is a lumbar puncture. In patients with bacterial meningitis, the opening pressure is often higher, and findings are marked by an increased WBC count with neutrophilic shift, decreased glucose, and increased protein. In contrast, viral meningitis often causes an increased WBC count with a lymphocytic shift, along with normal to low normal glucose levels and only moderate elevation in protein. Past studies have also noted that many patients with viral meningitis display a rise in neutrophil counts during the initial course of the illness, as seen in this patient, but then "convert" to a lymphocytic predominant picture after the second or third day of the illness.⁶ While a head CT was not elected for this patient, it is recommended that those patients showing focal neurologic signs undergo a head CT before a lumbar puncture is performed. Detection of a space occupying lesion associated with an increase in intracranial pressure would be an indication to avoid or practice caution in performing a LP to decrease the risk of herniation.

While the treatment of bacterial meningitis involves the rapid institution of antibiotic coverage, treatment and management of viral meningitis is primarily supportive and includes analgesics and antiemetics. Headache and fever can often be managed with acetaminophen. Antiviral therapy is not recommended for most cases of viral meningitis with the notable exceptions of HSV-1-, varicella-, and CMV-associated meningitis. For these types of meningitis, acyclovir is the drug of choice, with foscarnet and valacyclovir as possible alternatives.⁷

Most patients follow an uncomplicated course with viral meningitis and can be managed on an outpatient basis. Full recovery from viral meningitis usually occurs within two weeks from the onset of initial symptoms, though it has been reported that fatigue and lightheadedness may persist for months in some patients.

Viral meningitis is a common condition seen by physicians in clinical practice as well as in the emergency department. With a careful history and physical examination, along with thoughtful analysis of the appropriate studies, viral meningitis can be differentiated from other more serious conditions and managed appropriately.

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Odmara Barreto

Bush's Stem Cell Veto: Ideology before Science, Politics before Patients

Steven Lin

As expected, and for the second straight year, President Bush has vetoed a stem cell bill backed by both the U.S. House and Senate which would have allowed new federal dollars for human embryonic stem (ES) cell research. The bill, which fell only 43 votes shy of the two-thirds majority needed to override the June 20 veto from the White House, would have dramatically expanded the number of human ES cells available to federally-funded researchers. Supporters of the veto argue that it is unethical to compel American taxpayers to support the destruction of human embryos in order to generate ES cells for use in medical research. Opponents point out, however, that unused embryos from fertility treatments will be destroyed anyway, and allowing them to be used in research could lead to life-saving cures for some of today's most devastating diseases. The Coalition for the Advancement of Medical Research in Washington, D.C., expressed "anger and disgust," at the veto, criticizing President Bush for "continu[ing] to rely on ... an extremist minority" for his information and for ignoring "the overwhelming majority in the medical, scientific, and spiritual communities."

The promise of human stem cells is dazzling. Stem cells

hold the key to a better understanding of normal development, which may allow scientists to correct inborn or genetically acquired errors in cell specialization that can cause some of the most serious medical conditions such as cancer and birth defects. Another potential application of stem cells is the regeneration of organs and tissues that have been irreversibly damaged by disease, giving hope to hundreds of thousands of people who need solid organ transplants—people who may otherwise die waiting on the transplant list. The power of stem cells to serve as a renewable source

of replacement cells may be harnessed to possibly treat a near endless list of debilitating diseases, including Alzheimer's, Parkinson's, burns, heart disease, rheumatoid arthritis, spinal cord injury, stroke, and diabetes.

However, research using human ES cells is still in its early stages, and the road to breakthrough therapies and long-awaited cures relies critically on federal funding. Scientists first began doing experiments with ES cells in 1998, when a team led by Dr. James Thomson at the University of Wisconsin developed a technique to

isolate and grow the cells from unwanted human embryos left over from fertility treatments. President Bush first laid down the current restrictions on stem cell research in 2001, and his latest veto was a reiteration of that same policy.



Thomas Tsai

Autonomy

Justice

Beneficence

Non-Maleficence



Wenshuai Wan

Backed by ethicist William Hurlbut of Stanford and physician Donald Landry of Columbia, both of whom support finding alternative sources of pluripotent stem cells that spare the embryo, Bush cited reports in today's newspapers about stem cells isolated from amniotic fluid and reprogramming of mouse skin cells to become ES-like cells. Seeking to pacify those that disagree with him, Bush signed an Executive Order to redouble efforts at the National Institutes of Health (NIH) to promote the hunt for alternative sources of stem cells—a gesture that many stem cell advocates immediately dismissed as “meaningless” since NIH has been encouraging such research for the past 20 years.

A recent study published in the online edition of the journal *Science* shows that a majority of U.S. couples who had frozen embryos left over from fertility treatments would donate them for stem cell research. Of over 1000 randomly selected people from nine fertility centers around the U.S., 49 percent said they were likely to donate some or all of their embryos for research. When asked specifically about stem cell research, the number willing to donate rose to 62 percent, suggesting that most infertility patients have no moral problems with donating their embryos for research, even though they are the ones who have invested emotionally in their embryos. “The president is deferring the hopes of millions of Americans who do not have the time to keep waiting for the cure that may save lives,” said Democratic presidential hopeful Sen. Barack Obama of Illinois.

Fortunately, there may soon be a way to sidestep

Bush's restrictions on federal funding for ES cell research. On June 19, one day before the veto, stem cell expert Robert Lanza of Advanced Cell Technology in Worcester, Massachusetts, announced that his team had successfully created the first human ES cell line without destroying an embryo. Lanza used the technique known as preimplantation genetic diagnosis, the same procedure used to biopsy in vitro fertilized embryos for genetic abnormalities, to remove a single blastomere from an eight-cell human embryo. After isolating the blastomere, Lanza suspended it in a microdrop of culture medium near the original seven-cell donor embryo, which provided critical survival signals for the single-cell blastomere to keep proliferating. Finally, the blastomeres were transferred to a dish of mouse support cells, which helped maintain the human cells' pluripotency as bona fide ES cells, while the seven-cell donor embryo went on to develop normally. The findings were presented at the 5th International Society for Stem Cell Research and are awaiting publication.

Meanwhile, Lanza is in talks with the NIH to determine whether this technique will get around Bush's ban on human stem cell research. If it does, this may be a groundbreaking step forward. Speaking to *ScienceNOW* Daily News, ethicist Laure Zoloth at the Northwestern University Feinberg School of Medicine says, “It's fascinating to see the explosion of these alternative pathways to making stem cells. These findings allow us to move on from vexing issues like the moral status of the embryo and egg extraction to issues [such as] ... who will get the treatments.” And there is no time to lose.



Thomas Tsai

Doctors in the Media

Lizzy Goldsmith

I am going to be a doctor soon; and, in case you didn't get the memo, doctors can do anything. At least that is what I have been told since I entered medical school. We are the leaders of tomorrow, multi-talented artists, singers, community leaders, scientists destined to win Nobel prizes. We strive to heal our patients, change the face of medicine, and save the world.

Nowhere is that message more pervasive than in the media. Doctors are machines, capable of facing intellectual challenge, social strife, life and death, all without food or sleep. Or in the words of Dr. Ben Gideon (Gideon's Crossing) addressing a class of medical students,

A doctor is engaged in a kind of performance, in which every word, every gesture, every intonation, is carefully sculpted for the benefit of the patient. What you say will be evaluated, repeated, in phone calls 30 times over the course of the day, to friends, colleagues, relatives.

A doctor never expresses anger, plays favorites, inspires false hopes or unnecessary doubts. When you are feeling harried, exhausted, insulted, conflicted, turned on, put upon, pulled at, taken advantage of, or panicked – keep it to yourself. This is what patients want, and have a right to expect: Someone on their side, fighting for them, a human being, without unkind feelings, who makes no mistakes.

The goal: perfection. This 'can-do' attitude is brought

to a whole new level on the television screen. Given that television is limited only by the human imagination, doctors in TV dramas do not just face life and death, they face bombs embedded in body cavities, rare disease epidemics, Siamese twins, double uteruses... and all in the span of an hour. Everybody loves a hero.

Historically, physicians have generally been portrayed in a positive manner by the media; an idealization that has come to represent a double-edged sword for the health profession. Aside from the sheer entertainment value in watching our favorite character swoop in and save the day by diagnosing yet another particularly rare disease, pundits hypothesize that these dramatic portrayals of physicians may be planting unrealistic expectations in the minds of our patients.

One article addressing the issue, "Television Doctors: An Analysis of Physicians in Fictional and Non-Fictional Television Programs," postulates that these unreasonable expectations may fuel patients' feelings of futility and disappointment in their physicians, possibly leading to negative health outcomes and malpractice lawsuits. In fact, in one survey of 200 adults, responders were generally disappointed with real doctors in comparison with the fictional, televised counterparts.

The disappointment in real-world physicians is no surprise. Television doctors have an almost enigmatic, omnipotent presence. "They rarely failed, and they saved lives with ease, often due to their own initiative and at great personal risk." In addition they are able to perceive

underlying personal conflicts in their patients' lives, reconcile broken relationships, and unlock deep-seated emotions.

Most importantly, we must not forget, they look good doing it. When ABC's *Grey's Anatomy* broke out into the medical drama scene, I was excited to see a cast so heavily dominated by female protagonists. However, I was soon disappointed to discover that they were, as usual, devastatingly beautiful and thin, with flawless, well-groomed hair (it truly defies my understanding how they keep those long flowing locks from falling into patient wounds). But apparently extremely good hair is the norm for prime time physicians. One writer, Chelsea Cain, has taken the time to rate both the hair and the medical capabilities of our favorite TV doctors in shows ranging from *MASH* to the aforementioned *Grey's* and has determined that on TV, there is a correlation between good hair and impressive medical skills.

Doctors are Just Cowboys with Scalpels

Chelsea Cain's analysis did find one significant outlier, Dr. Gregory House from *House*: bad hair, great medicine. I would argue that this anomaly is a sign of the shift that has begun to take place for medicine in the media. Watch out future doctors of America; we are no longer the media darlings we once were. The doctors on today's TV screens are not quite perfect; they are starting to make mistakes.

Physicians on television are beginning to be portrayed in a more negative light with "unflattering personal traits, including adultery, arrogance, and avarice." They swagger into the OR with their scalpels in hand to perform a life-saving surgery, against the orders of their superiors, and *fail*. They have ill-advised affairs with students—or worse, patients—and drug problems. They cut the LVAD (left ventricular assist device) wire. Once wielding unlimited resources on their patients' behalf, they now balance costs and benefits when making decisions about their patients' health.

The importance of this issue has raised flags in the medical community itself, spurring the creation of a short film, "Prime Time Doctors: Why Should You Care?," distributed to all entering medical students. With portrayals of physicians in the media from the 1940's through the present, the film attempts to convey why patients may harbor doubts about their physicians and what future physicians can do about it. The contrast between past and present depictions of physicians presented in the DVD is described by the American Association of Medical College's August 2003 Reporter:

A clip from the 1940 film "Dr. Kildare's Strange Case" shows Dr. Kildare (Lew Ayers), after some initial uncertainty, decisively performing brain surgery, even though the patient has not given consent. "I take full responsibility," he says, taking the scalpel.

This is contrasted with a scene from the long-running "ER" television series in which Dr. Peter Benton (Eriq La Salle) wants to do the same—save a patient with AIDS who

has been shot, even though colleague Dr. Cleo Finch (Michael Michele) tells him the patient wishes to die. Today's questions, the contrast shows, are less black-and-white than those of the past.

It is difficult to know why the tables are beginning to turn on this iconographic vision of medicine. It could just be a push to increase ratings with more interesting plot lines; alternatively, it could be a sign of a true shift in the public's perception of physicians.

I would argue that it is a backlash against the changes that have occurred in medicine in recent decades: strict paternalism has giving way to shared decision-making and evidence-based medicine. Doctors have let go of *complete* control and revealed the truth—they do not always have the answer. This shift has occurred against the backdrop of heightened public awareness, given the explosion of health information on the Internet, and has been dramatized by the news media which focuses "on non-routine events, especially disputes, scandals, controversies, and fraud in science." Not only are patients aware of the latest big-pharma scandals, but they come to their appointments armed with journal articles and questionable information retrieved from health-related websites.

We are More (and Less) than Just Doctors

It is interesting that imperfection in the field of medicine is so new to the media because it is something that each medical student is so intimately aware of. As first-year medical students, we are struggling to know at least 70% of the answers. We are struggling with the vast multitude of drug names to remember. We have ethical role-plays where we must decide what to do when we are faced with making a mistake that kills a patient.

We are also intimately aware of how doctors are perceived because it is impossible not to notice the difference in how people look at you when you put on your white coat or scrubs. With the help of the media, when our patients look at us they don't just see doctors, they see icons, big pharma, potential medical mishaps, overachievers, and heroes.

The media perpetuates the perception that doctors can be and do everything... and the idea of being everything is tempting. Who doesn't want to be a hero? Who doesn't want to save the world? Yet these alter-egos that we assume upon donning our white coats can also cloud the relationship that we have with our patients, leading to misunderstandings or malpractice law suits.

The current rise in law suits against doctors and the slow downfall of the perfect doctor image in the media is a shot across the bow of our profession. As doctors we must remember when we enter a patient's room that we enter with the innumerable things we represent to them. Thus in order to have successful relationships with our patients we must try and diffuse each of these stereotypes one by one...including that of hero. We must remind our patients that we are just doctors, but we will fight heroically to do the best that we can do.

Doctors as Policymakers

Philippa Soskin

“Looks like he’s home.” Midnight was approaching, and I could barely hear with traffic roaring overhead. Jill, a clinician with the Boston Health Care for the Homeless Program, shone her flashlight into a dark crevice under the bridge. First, I heard the coughing; then, I spied its origin: Ralph. Middle-aged and disheveled, Ralph makes his “home” under the bridge and is rarely found without bottle in hand, substituting Listerine on Sundays when liquor stores are closed.

I tell this story because it is exemplary of how my experiences have taken me to where medicine, policy, and service intersect. The policy questions are many: Who will pay for Ralph’s health care?

Does he have the food, water, and shelter necessary to support his recovery? What welfare and jobs programs are in place to change his situation? If contagion is a concern, what public health measures will protect the community? What role do liquor laws play in the mortality of Boston’s homeless? Ralph’s treatment, recovery, and health maintenance are contingent on addressing these questions. What is the role of the physician? Is the “treat and street” approach enough?

The physician’s medical expertise, experience at the bedside, and status in society can provide invaluable perspective and influence in informing the policy process. The doctor-patient relationship offers unique insight into the lives and needs of a vast cross-section of the American public. While confidentiality prohibits sharing specific cases and circumstances without permission, doctors can provide an understanding of problems and patterns that could drive policy change. Brian Skotko, a former classmate at the John F. Kennedy School of Government and a current first-year resident at Children’s Hospital in Boston, discovered this from his work with children with Down syndrome. Finding that parents did not receive adequate information and support upon diagnosis, he formalized his findings through a research study and published his results in the *American Journal of Obstetrics and Gynecology*. In March 2005, Senators Kennedy



and Brownback took notice and invited Dr. Skotko, then still a medical student, to speak at a press conference in support of the bipartisan “Prenatally Diagnosed Condition Awareness Act” to provide funding for scientifically sound information and support services. Dr. Skotko deferred most of his air time to the mother of a Down syndrome child and, in doing so, created a platform for her voice while providing anecdotal and research-based evidence to support the bill.

The M.D. still garners respect, and with respect comes influence. At a conference for the American Medical Student Association, Dr. Leon Owen, a Sacramento area trauma surgeon, urged us to wear our white coats when we lobby for policy change, as decision-makers will take notice. Dr. Owen is pushing for strict and automatic consequences for drunk driving in the form of a 30-day car impoundment. As a trauma surgeon, he treats hundreds of victims of drunken driving accidents and considers prevention part of his professional and social responsibility. This sentiment is echoed by Dr. Deborah Prothrow-Stith, who gave up clinical practice to work full-time on policy issues surrounding youth violence. As an emergency medicine doctor in inner-city Boston, Dr. Prothrow-Stith treated countless gunshot wounds inflicted upon youth by youth. One day a

young adolescent left the emergency department declaring he would be sending his shooter in to see her. Realizing that “treating and streeting” was not a long term solution to youth violence, she has since devoted her career to addressing violence further upstream and redefining violence as a public health issue rather than solely as a criminal justice issue.

These three physicians champion causes on behalf of their patients and the greater public; however, policy decisions also impact the lives and careers of health care professionals. The American Medical Association and other professional organizations acting through “organized medicine” work to preserve physician autonomy and protect

the interests of the profession. Managed care, government programs, third party payers, utilization reviews, drug formularies, and malpractice laws are among the many changes in recent decades that affect the way physicians practice medicine. Law and policy can impact the role of physicians in surprising ways: in 2006, a U.S. District Court ruled that prisons must have an anesthesiologist present to supervise execution of prisoners by lethal injection. While physicians are not forced to participate, such laws reveal the outside forces at play in shaping the role of the medical profession and, consequently, the importance of physicians having a voice in that process.

A challenge facing physicians in the policy arena is that they are no longer the dominant voice in health care. In recent decades the health sector has expanded to include a vast array of interest groups, including other health professionals, empowered consumers, disease-specific organizations, insurance companies, and the pharmaceutical industry. The dilution of physician influence is augmented by the splintering of interests within the profession. The AMA, historically the most powerful voice in medicine, continues to struggle with membership attrition as physicians align with specialty-specific organizations and diverge on contentious policy issues such as universal health care.

While physicians may no longer be the most dominant and unified voice in health care, they are still among the most trusted by the American public. A 2002 Harris Interactive Poll found that nurses, physicians, and pharmacists topped the list in terms of groups the American public trusts to make decisions about health care, while managed care plans and members of Congress were the least trusted. However, physicians have not always earned the trust of their patients. The Tuskegee Syphilis Study is perhaps the most infamous case of unethical behavior by clinicians, when between 1932 and 1972 about 400 African-Americans were unknowingly denied treatment for syphilis as part of a research study. More recently, physicians' actions and

incentives have been called into question as it was revealed that pharmaceutical companies pay physicians large sums of money for prescribing anemia medication that may have safety concerns. Unethical behavior and questionable incentives among physicians undermine the medical profession as a whole and limits physicians' ability to exert positive influence on policy.

Putting it all together, what makes a good physician-policymaker? Three key components are clinical excellence, integrity, and policy prowess. What distinguishes physicians in policy from career politicians and others with influence is medical expertise and experience at the bedside that cannot be gained without investing time in becoming an outstanding clinician with excellent patient rapport. Maneuvering within the policy process requires competency in the language and skill set of politics and policy. Economics, statistics, political strategy, management, and negotiation are skills that can be developed through formal training and experience. Health care continues to be among the top issues on the public's domestic agenda and the roles a physician can play in policymaking are many: testifying before congress, serving in elected office, sitting on advisory boards, lobbying congressmen, participating in think tanks, and conducting relevant research, to name a few. Physicians have been major players in the policy arena throughout America's history including four signers of the Declaration of Independence, two signers of the Constitution, and forty-seven Senators to date. Senator Royal Copeland is remembered for sponsoring the Pure Food and Drug Act of 1938 which laid the groundwork for creating the Food and Drug Administration. The legislation that Dr. Skotko influenced is still under consideration, but he, like others before him, has shown us that physicians and physicians-to-be can have widespread impact on health care policy. It is the responsibility of physicians to ensure that health policy is informed by science and medicine and translates to quality patient care.



Wenshuai Wan

Doctors as Scientists

Michael Bokoch

It started sometime in August, roundabout the beginning of my third year. It was so gradual that it snuck right up on me. It was the same group of friends, with the old camaraderie and inside jokes that arise from two years of shared experience. But an intangible change was rustling amongst my classmates: the young doctors were growing up. They had acquired new skills and a new lingo. The conversations changed. There was talk of Q4, pharmacopeias, and lap choles. Lab values I couldn't remember and residents I didn't ever want to deal with. The rest of us fell off the doctor curve somewhere. We thought it might be important for us to learn science at this time in our career. What were we thinking?!

So here I am, nigh upon my fifth year at Stanford, hoping this is as far removed (2 years?) from medicine as I will ever be again. There are many days I question the decision. One of them was Match Day '07. I had mixed feelings: joy and pride for my friends, sadness and envy thinking that I should be heading off for residency too. That was an acute trauma though, and on most days, I would never trade away what I do. I spend most of my time day-dreaming about membrane proteins, flexing and undulating, and how we might bend them to our will to treat disease. That's my tiny corner of the scientific universe. But I want to thank *H&P* for letting me peep my head out of that corner and reflect on a bigger picture: the societal role that doctors play as scientists.

I'd like to discuss two different facets of this role, and the impact that each can have. The first side of the coin: doctors bring science to their patients. The physician, especially the primary care provider, has a unique opportunity to help patients engage with cutting-edge medical knowledge. The other side of the coin: doctors bring medicine to the scientists. All physicians, and not just the 'mudd phuds,' bring a crucial pragmatism and breadth of knowledge to basic science interactions.

Translators for Translational Research.

Most of us must get a kick out of learning (or six-digit salaries) to have stayed in school for this long. That's good news, because we're going to be bookworms for a long time. Medical science changes each week, and it will change in fundamental ways during our careers. As

a result, each of us leaves medical school with a personal challenge and professional responsibility. We must continuously read and evaluate the literature, discuss it with colleagues, and formulate opinions that impact our practice. In this way, the peer review process continues long after a paper is published. The jury consists no longer of editors and researchers, but of practicing physicians as well as medical students, too.

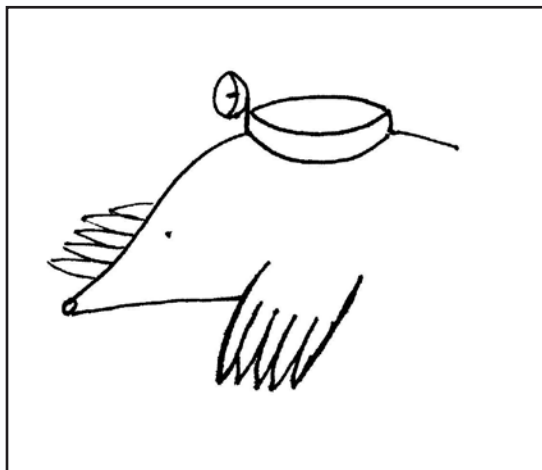
Continuing education of the provider creates opportunities to educate the patient. Physicians must seize this chance and be proactive in bringing new medical knowledge to their patients. It represents a significant

means of patients becoming more informed participants in their own care. For many individuals, primary care physicians are relied upon as the most accessible – and credible – source of information on health care science. Other sources, such as television and the internet, filter information in different and not necessarily scientific ways. The provider thus assumes a unique scientific role: he or she becomes a direct conduit from the primary scientific literature to the patient. Clear summaries of recent findings can help patients make more thoughtful decisions. Such data

would not otherwise be easy to access or interpret in many cases. By educating patients on prevention, disease, and treatment, we empower them to include scientific thought in key decisions that affect their own care.

Physicians are Unique and Valuable Scientists

I imagine that being a young scientist is a bit like being a young mole. Thrust down a broad tunnel that brilliant women and men have dug out grain by grain before you; you must now burrow out a little niche in that huge murky expanse. In science, you must explore every nook and cranny of that niche, ultimately achieving expertise in its intricacies. To be successful, your research must be fundamentally different from everyone else's. Given the ultraspecialized nature of this process, acquiring scope of knowledge is somewhat undervalued in graduate scientific education as against medical education. For an individual researcher, understanding the entire breadth and context of his discipline is not entirely necessary; that is a goal accomplished by a team, a department, or an institution.



Jessica Les



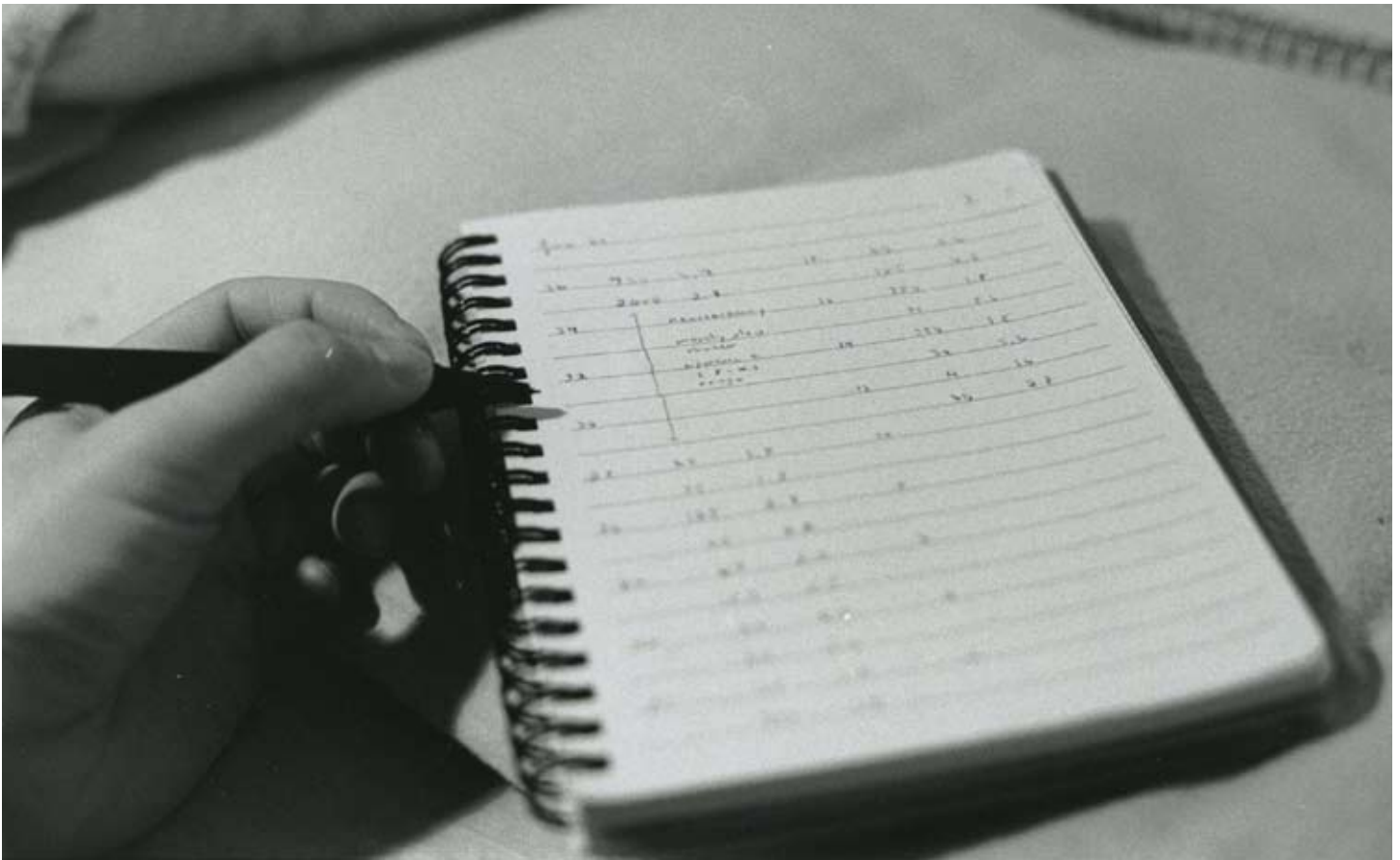
Thomas Tsai

The physician-scientist thus has a contribution that is unique from scientists who do not receive medical training. In medicine, gaining a functional breadth of knowledge is an intrinsic and essential component of our training. The exposure we receive to each scientific discipline is one key to diagnosing, treating, and understanding disease. As a pleasant side-effect, physicians become comfortable with the language of many scientific disciplines. Walking into a laboratory or seminar in cancer biology, immunology, or neuroscience, a physician immediately understands some aspects of the work being done. The same may not even be true for two non-MD researchers within the same department.

The voice of the physician-scientist is key to dialogues in biomedical science. This voice can place research in the context of human health and disease and help steer basic research to meet clinical needs. Stanford has long recognized the value of such a perspective for its basic science trainees. Along that line, congratulations go out to Ben Barres and the School of Medicine for implementing the Master of Science in Medicine (MOM) degree program this past year. Basic science graduate students in the MOM program complete two years of preclinical coursework alongside med students prior to joining a lab and pursuing

full-time thesis work. As a result, these trainees are better equipped to pursue disease-relevant research. The birth of such programs, alongside the continuing influence of physician-scientists, will help drive the US academic research machine towards discoveries that impact human health.

It is clear in my mind that doctoring makes one a better scientist. But people have been asking me another question for years. It is one that I am constantly bothered by, because I hope to practice medicine someday. Does science make one a better clinician? This is a question I struggle with each day. While it is possible to be excellent at both, there is always some sacrifice. Time spent in a laboratory is time using your hands and brain for tasks other than healing. So why do both? Is it fair to our patients? Shouldn't we pick one, research or medicine, and do it as best we can? The first answer is selfish: some of us just can't help loving both. I would certainly feel less fulfilled if either of these two components was missing from my life. Second, as I hope I've convinced you, medicine and science are inseparably intertwined. It is absolutely necessary that some physicians bring their medical perspective to the basic science community. As a result, all of biomedical science improves. And that, most certainly, is good for our patients.



Wenshuai Wan

Doctors as Writers

Alana Frost

"Publish, Publish, Publish," the successful surgeon in suit and tie advised us at a dinner for first-year medical students. With the end of the year just weeks away, his message was nothing new—in addition to board scores, we knew a Latin document, the Curriculum Vitae, would someday be the measure of our worth.

I first encountered the CV as an undergraduate at Williams College. Applying for a research fellowship, my soon-to-be PI crossed through the title "Resumé" and wrote two mysterious letters. Having spent too long putting the accent over the "e" in "resumé," I left her office confused by this revision to the unfamiliar "CV." To my relief, when I Googled "CV," the familiar genitive of *vita*, Latin for life, popped into the results. From my *Wheelock's Latin*, I learned that "*curriculum vitae*" roughly translated to "course of life," a document meant to encompass not only the major stops through education and career but also the publications chronicling the way.

A college sophomore, what could I possibly put on a CV? My resumé—since I refused to admit that my experiences as a cashier and umpire warranted the formality and seeming prestige of the Latin equivalent—sat

untouched on my desk while the deadline for the fellowship approached. I eventually and begrudgingly handed in my CV with the research proposal. Those letters must be magic, because Williams College gave the unqualified umpire nearly \$8,000 to do basic science research.

I received that funding because the blank page that was my CV was a page with promise. As medical students at Stanford, we are fortunate to receive similar funding through the Medical Scholars Research Program. While the goal of the program is to teach medical students the art of research, a well-understood and well-recognized pursuit, it reflects the heavily academic nature of our medical center. In the words of the successful surgeon: "Publish, publish, publish."

The focus on the medical literature stems from a common belief that contributing to and reading the major journals, such as the *Journal of the American Medical Association* and the *New England Journal of Medicine*, will make us better doctors. We learn to analyze and criticize the work of our colleagues in medicine, picking up the language of research until the words "randomized control trial" elicit an almost Pavlovian response. What gets lost along the

way, sadly, is an appreciation for writing itself. I am not arguing that the medical literature has gone to the pot (although that is where a number of my friends spend time with the *NEJM*). Instead, I worry that the focus on publishing RCTs, case studies, and meta-analyses teaches many to associate writing with scientific publication—so much so that writing becomes synonymous with CV augmentation.

Recently, many physicians have chosen to pursue an alternative route, writing a variety of non-scientific pieces. Abigail Zuger, M.D., takes a critical look at the emerging genre of non-scientific medical writing in a book review, “Doctors Who Wield the Pen to Heal the Profession” (*New York Times*, May 15th, 2007).

Her review starts and ends criticizing the quality of non-scientific medical writing, describing these medical voices as a cacophony of memoir and opinion, education and inspiration, entertainment and analysis, and the increasingly popular “prose with a mission, to find and fix.” Despite the surge of trendiness in physician-writers, there exist classics of this genre, such as “The House of God” by Samuel Shem (pen name for Stephen Joseph Bergman, M.D.) and more recently, “Complications: A Surgeon’s Notes on an Imperfect Science” and “Better: A Surgeon’s Notes on Performance” by Atul Gawande, M.D., also a well-admired writer for the *New Yorker*. Each of these books relays the simple message that doctors are people, too. Why are these books so popular, and to some, so unsettling? We learn from a young age that the doctor knows best when it comes to the science behind disease. We learn that donning a white coat leads many to believe we know the answers when in reality, I hardly know where to find the hospital cafeteria. Drawing on the truth behind the façade, these books are popular, influential, and yet unsettling because they challenge the notion of physician, infallible and omniscient.

Of course, writers like Dr. Bergman and Dr. Gawande represent a minority of doctors who write exceptionally well. As Zuger points out in her book review, most medical writing is mediocre at best, raising the question: where, and when, can we teach doctors and medical students how to write? From a student’s perspective, I know that my course syllabus seems to grow exponentially larger as I sit here writing this article rather than tackling the pathophysiology of the heart. Writing my proposal for the Medical Scholars Program, I wined with each poorly written page because a sense of urgency dictated the need to write fast, but not well. I am finding that medical school has an interesting and unfortunate way of narrowing one’s interests, such that I only date my boyfriend so I can practice listening to his heart – and I only write for the

purposes of completing an assignment. Since we will only become busier and more focused as we progress through our training and careers, I fear that non-scientific writing will happen only as an afterthought. As medical students, interests outside of our scientific core are often limited to research endeavors in labs or working at the free clinics. Little time is devoted to the study of the humanities, which many believe helps students and physicians develop insights into the human condition.

Fortunately, we are at a time in medicine where the humanistic aspects of being a healer are beginning to find formal recognition. Larry Zaroff, M.D., Ph.D. teaches the



Wenshuai Wan

core medical humanities course, “The Human Condition: Medicine, Arts, and the Humanities” required of medical students in the Biomedical Ethics and Medical Humanities scholarly concentration. Like many of his students, Dr. Zaroff’s focus for 29 years was narrow and scientific—as a cardiac surgeon, he first published in 1958 while a resident and actively pursued pacemaker development and other medical research until he

switched careers. The idea of non-scientific writing did not come to him until he entered graduate school at Stanford in 1995 at the ripe age of 63: “I was forced, in order to pass my classes, to write other than science.” Now a skillful writer, Dr. Zaroff puts his writing skills to use on a number of projects exploring the connections between literature and medicine as well as the history of medicine. Additionally, he writes a column for the *New York Times* Science section. Though skeptical that his first novel, *The Chinese Heart*, or a memoir, *Journey with My Patients*, will make it to publication, he continues to write “for pleasure, for teaching—myself and others.”

Dr. Zaroff raises an excellent point about writing as a personal endeavor—even if one’s work never reaches publication, there is something to be gained by the very act of writing. No one will dispute the importance of communication in medicine; thus it would seem logical that we need to encourage and enhance students’ skills in both verbal and nonverbal forms of communication. Learning to write will not only help doctors place their careers and lives in context but also will improve the clarity of their professional, scientific writing.

We often hear about the number of medical students and doctors who take up long-distance running as a personal diversion. Everyone will run a slightly different course—some prefer the arduous Boston Marathon, others, the more recreational Bay to Breakers. If our CV documents the course of our professional life, remember that its context is just as important as the number of miles in the race.

PHOTOESSAY

Mobile Surgery: Bringing the OR to Underserved Populations in Rural Ecuador

Tracy So

Ecuador, a country in the northwest corner of South America, is rich in culture and history. However disparities in income and the colonial history of the country have led to a rift between the wealthy and poor. One of these areas of disparity is in healthcare. Since many of the country's population lives in remote rural areas, healthcare, and particularly access to surgical care, is often nonexistent. In 1994, Dr. Edgar Rodas, former Minister of Health of Ecuador, established Cinterandes, a non-profit organization which utilizes the novel concept of mobile general surgery to bring the operating room to these remote populations. Since its founding, Cinterandes has met unprecedented success, and has served as a model for similar programs in other countries. The medical teams that go on the weekly surgical trips include surgeons, anesthesiologists, nurses, local health workers and medical students from Ecuador and around the world. In the spring of 2007, I had the privilege of spending six weeks with Cinterandes, assisting in surgeries, interviewing patients, and capturing my experience in photographs.



The workhorse of Cinterandes is an operating room mounted on a 22-foot Isuzu truck. The unit has running water, air conditioning, and a room for scrubbing, and the OR has basic anesthesia and monitoring equipment. The mobile surgical unit has served in 15 of Ecuador's 22 provinces, and as of 2004, over 4400 surgeries had been performed in it.

Navigating the mobile OR to each location is often challenging. The winding roads through the Andes, seen in the background here, are rarely well-paved, and one trip we made into the jungle took 14 hours each way. Obstacles encountered during past trips have included road obstructions from landslides and even an overhanging rock that had to be dynamited to allow the truck to pass.



We visited the jungle community of Chumpias in the southern Oriente. Upon our arrival, community leaders (along with many, many children), had a festival to welcome us. The children were very enthusiastic about giving us tours of their neighborhood.



A typical family home in Chumpias. The average number of children per family in this community is 8.



Prior to our days of surgery, the children helped arrange mattresses in the room that would be used for pre and post surgical care. The medical team also slept in this room with the patients.



Most of the patients we performed surgery on were screened ahead of time by local doctors, but we also held a general health clinic aimed at identifying any patients who would also benefit from surgery.



A view inside the mobile OR, closing the skin after a hernia repair.



After each surgery, the scrub and circulating tech (who, incidentally, also drive the truck to each location) take the patients to the post-op area by dismounting from the back of the truck.



Family members stayed with the patients on the first night after their operations.



We visited a school in Santa Ana, outside of the city of Cuenca in the southern highlands, where we did pre-operative exams on schoolchildren for problems such as cryptorchidism and tongue tie.



Two days each week we worked at a public hospital in Azogues, one hour outside of Cuenca. On the drive home one day, it became apparent how strange and unpredictable the weather is in this part of the country. It could be sunny and hot in one place, and a block away there could be thunder and pouring rain.



On several days we operated in the mobile surgical unit at the University of Cuenca. Next to the truck we set up a pre and postoperative tent, and in the front, the physician's lounge.

Celestial Transit

Hetty Eisenberg

*Drained, again
Time draught under the surface
Agitated, submerged
My intention serous then opaque.*

*Margins, moment
To moment the pathos of my knife
Frozen, sectioned
Ordered across remote boundaries.*

*Insight, iron gem
Not transcendant but a tunnel to unearth
Human-mined, balanced mind
Your atlas shoulders the presence of firelight.*

*Exhaled, once
Transmuting from below to above
Together we are, sublimated
An apogee discharged with new beginnings.*

PHOTOESSAY

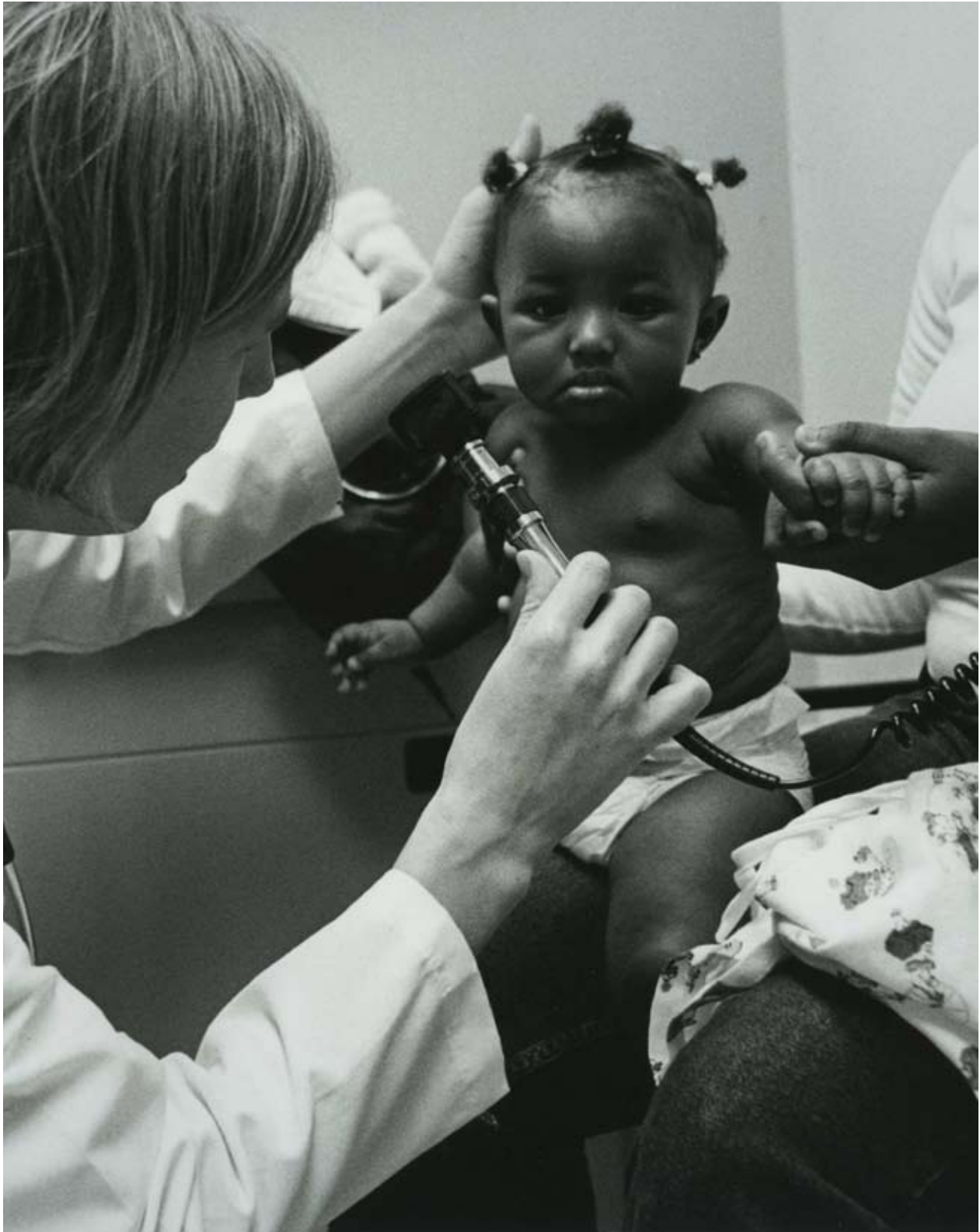
Pediatric Wonders: Scenes from A Childrens Hospital

Asya Agulnik









The House of God: An Interview with Stephen Bergman

Chantal Forfota

*Samuel Shem (the pen name of Stephen Bergman) is the author of the highly acclaimed novels **The House of God** and **Mount Misery**. **The House of God**, a black comedy about medical internship, has sold more than two million copies since its publication nearly thirty years ago. It was named by the British journal **The Lancet** as one of the two most important American medical novels of the 20th century.*

*Bergman was a professor of psychiatry at Harvard Medical School for thirty years and has been the director of the **Bill W. and Dr. Bob Project** in the Division of Addictions. With his wife, Dr. Janet Surrey, he is author of the play **Bill W. and Dr. Bob**, which chronicles the founding of **Alcoholics Anonymous**. On May 7, 2007 Bergman was the keynote speaker at **Stanford's Medicine and the Muse Symposium on Arts, Humanities, and Medicine**.*

How close is *The House of God* to your experience as an intern?

The interns I trained with were really very much like the characters in the book. I was a mixture of the Fat Man and Roy. But there is invention. We didn't set the beds at different heights to make the Gomers fall down, but we talked about it. You'll be in this situation—where you're just so tired and you can't do anything for the patients—and you'll think, *I wish they'd die*. They don't want to live. At one point in the book, the intern Basch puts the mattresses on the floor. I actually did that, because they were falling out of bed and that made a lot of work. The nurses didn't like that. But *The House of God* is more about the culture of that time than the individuals. It's not about me and those guys. It's about the medical training system and how that system was situated in a historical period.

"Gomers are human beings who have lost what goes into being human beings. They want to die and we will not let them." What is it that Gomers have lost that makes them no longer human?

At the time, a large population of people were sent in from nursing homes who were unconscious, demented or unaware of their surroundings. This was before Hospice care, and the chief had a policy of "doing everything" to treat these people. I didn't coin the term "Gomer." It was in parlance before I got to the hospital. Everyone used it. They didn't seem human because there was no way to connect with them.

Do the interns at *The House of God* lose something similar in the course of their training, or is that a different kind of dehumanization?

No, the interns don't turn into Gomers. They turn into sad, angry, frustrated, and, above all, isolated cogs in a wheel that turns on denial and devaluing the human element of medicine.

Are Gomers a creation of modern medicine, which can prolong the quantity of human life at the expense of its quality? Can you propose any ways to address the Gomer problem?

Things are much better now. The Hospice movement has trained people to deal with end of life care. Hospitals have more sensible policies about how far to go in treating those whose quality of life is minimal. On the other hand, modern life is more fragmented, so that family members are often not part of treatment decisions.

***The House of God* reminded me of a description of war, with the traumatic experiences and the camaraderie, disillusionment and dark humor that develop between the soldiers. Did you intend to compare internship to going to war?**

There's a line in the book that says, "The only reason men go to war is to die with their buddies." Vietnam filled the culture. There was a draft, and we were at the intersection of the civil rights movement and Vietnam. But what informed this core group of interns was not war specifically, but injustice in general. I was in medical school in 1970—Kent State had just happened. Ohio state guards fired on protesters and killed four kids. When we got into the hospital, we saw patients and interns treated inhumanely, and we had the same kind of activist response. All of my writing is fueled by what I call, "Hey, wait a second!" moments. Those moments we all have when we find ourselves doing things we don't really believe in. There are

two quotes I have above my desk to remind me of why I write:

"The best of writers are realistic and describe life as it is, but because each line is saturated with the consciousness of its goal, you feel life as it should be in addition to life as it is, and you are captivated by it." - Anton Chekhov

"Arts and Letters must both reveal and heal. To reveal means to show the true situation of people and society. To heal means to show ways to cure them." - Thich Nhat Hahn

In the face of so much human suffering and medical inefficacy, Roy and the other interns seem to have to choose between cynicism, denial and despair. In your own experience as an intern, did you actually find so little room for hope and compassion?

There wasn't an easy way through it. We had no support. There wasn't any teaching about the human side of medicine. No one ever taught you how to deliver bad news, how to talk about death with a patient, how to deal with the pain. It was the beginning of technocratic medicine. One of the interns in the book – who's now the dean of a medical school – he seemed to do fine. He wasn't upset. Patients liked him. Doctors liked him. He was stoned the whole time. That's how he got through everything. If you're under stress and you don't have an outlet, it can turn to humor, sex, cynicism. But I think there is hope in this book. The Fat Man is hopeful character. He seems so cynical, but he's actually an idealist.

What is hopeful about the Fat Man, when he wants to do as little medicine as possible?

What the Fat Man says and what he does are very different. Except for the one thing he says consistently – you've got to learn to *be with* patients. In the book, there's a woman with metastatic breast cancer. She's going to die, but no one has told her. The Fat Man tells her the news even though she's not his patient. An hour later, the two of them are still in her room, laughing, playing cards. The Fat Man is more complicated than he appears. He practices medicine in the best interest of the patients, regardless of the rules.

They would have gotten rid of the Fat Man, but he was a terrific doctor.

I am curious about the role of women in *The House of God*. Berry is patient and wise. The other women are sexless residents or lusty nurses who become the focus of the male interns' pent up libido and frustration. In your training in the 1970s, were gender lines so starkly drawn?

Yes, it really was like that. One of the things people of your generation always ask me is about the sex – that didn't really happen did it? It did. I was surprised by the number of married guys who were hooking up with the

nurses. They were the only ones who understood what we were going through. The outsiders couldn't understand.

If you were to write the book now, would you include a female intern?

There was one female intern in my group of sixteen. She was a little lost in the system, and left out of our group. Female residents are now in equal numbers to males, and in general are fully integrated into the system. Sometimes they downplay their skills in compassion and become even more hard-boiled than the men; sometimes they hold to their empathic skills despite the systemic isolations and are truly wonderful to their patients and colleagues. Maybe if I rewrote the book now I'd have a 'Fat Woman.'

Do you think that the increasing number of female medical students, residents and attendings has changed the nature of medical training? How?

Definitely. It's changed the culture of medical schools, from what I've seen as a teacher. Women are valued for their skills in connection and relationship. Men are valued for their skills in self. This isn't genetic, this is the way we train people in our society. Medicine is becoming more humane as skills such as connection and relationship are increasingly valued. The problem is that most women are only going into a few fields like pediatrics, psychiatry, and Ob/Gyn. Other fields like surgery and academic medicine are still very male-dominated. Women may not want to be part of a male-dominated field, so they opt out.

In *The House of God*, psychiatry seems to be the way out. Was psychiatry the great ray of hope it is made out to be in the book?

I ran into a wonderful psychiatrist in my training, and I decided to do psychiatry because I could learn about character and it would give me time to write. I wasn't as idealistic as Roy. I went to McClean Hospital and I was very disappointed in what I saw there. The psychiatrists were even less humane than the internists because there weren't any objective benchmarks like blood counts or X-rays to hold them accountable. One guy is telling you about Freud, one guy is doing behavior therapy. Theories allowed these psychiatrists to abuse their patients. Read *Mount Misery*. That's what I saw. I don't think my standards are overly high. I don't think you should discharge a depressed patient because you're fed up with dealing with him.

Berry describes "being with" people as the essence of psychiatry, and seems to suggest that in psychiatry unlike medicine, there is actually the possibility of cure.

I believed that at the time I wrote the book, and I still do. If you can reach a person at a crucial point in his life, and you make a connection, he'll never want to kill himself again. It's like any transformation. It doesn't have to be

psychiatry. It's a spiritual act. But you can't cure CHF. I saw bad practices in my training at McClean, but I think there's a lot of potential to do meaningful work in psychiatry.

Every psychiatrist who's any good finds the way to be compassionate with his patients. You've got to get the theory out of your head. You can't be sitting there, trying to put the patient into a theoretical box. Most of the people I knew did that, because that was the way up the ladder. With psychiatry, where interaction is so important, you can't have one eye on career and one eye on the patient. The patient can tell.

I loved psychiatry. It is like writing. It's incredibly challenging. You get to understand a human being. It's a mystery. I always used to ask my patients when we finished long-term therapy, what helped? It was never what I expected. Once, a patient said, "What helped me was, when I told you my mother had died, at the end of the session you put your hand on my shoulder in a way that showed me you understood." That's drama. That's transformation. The

two novels—*House* and *Misery*—chart a journey: Roy enters the *House* wanting to become a doctor, and by the end of *Misery* learns to become a healer.

Roy and the other interns fight to retain some shred of compassion and self-respect in their training. What does it take to face so much futility and retain a sense of hope and humanity?

I would advise medical students to look carefully at their colleagues, chiefs and advisors, to make sure they're people who share similar values, people they can talk to. Isolation kills. Connection heals. The point is that if you're alone, it's much harder. What a psychiatrist does at best is "be with" people through their suffering. This helps carry them through—it's as simple as that. If we had had a chief resident and a chief of medicine who were good models and compassionate people it would have been a very different experience.

In Memoriam: Dr. Larry Mathers

Anonymous

Another life touched by your presence
Another teary eye
Another person hurting since he couldn't say goodbye

So precious the moments of harmony, so polite our biggest cheers
So mundane the moments appeared, but why then so many tears ?

'Cause its you, smiling on that piano,
And your hands that learnt us right
It's your humor and harmony
That keeps our dark room bright

We are yet another window that you've opened in the room
Yet another sunray unleashed upon gloom

For Larry, Dr. Mathers, your legend hasn't even begun
Everything that you've seen so far was just prologue to the fun

Instead, you know where to look for the footprint of your life
It's in every life touched by your presence
In every teary eye



Tom Caruso

Under the Peak

Carolyn Fredericks

No snow coming in today. Just cold. He can see its bitter glow in the clouds outside, feel it down in his bones. Sometimes he thinks all he ever feels in his body is whatever's in the sky — that ache in healed-up fractures and sprains that comes before the storms, when it's summer and the sky tightens too, the summer heat wringing out into rain, the smell of wet grateful vegetation rising everywhere. And your hands get slick on the wet handle of the ax and the dog is nervous, she looks up at you, don't you know it's going to storm, and noses toward home. She hates the thunder. Hides under his wooden bed and shakes. Now her nose pokes out of the old sleeping bag he's given her for the winter. The breath from her nostrils steams in the cold air.

He is only thirty-one but the winter makes him feel old.

Gots to get out of bed — who knows what time it is.

He climbs gingerly out of the sleeping bag, the sleepheat that coats him turning to damp-cold as soon as it hits the air. Frost in his beard.

He puts some water on for coffee, turns and narrows his eyes at the dog. "Hey lazy dog, you gonna get up today? You don't eat anything, you sure aren't gonna get any warmer."

The nose poking out of the sleeping bag gives no response.

"Damn dog," he says, opens the wooden door which swings shut behind him, takes a piss over the railing into fresh snow. Dark here lately. Only see real sunlight three hours a day — rest of the time this place, in the crook

between two ridges, is all in shadow. Want to see the sun you gotta ski up to the ridge. Slams the door and goes back inside.

"Doggers!"

This time the nose twitches and shifts and two shadowy eyes follow him from under the folds of the sleeping bag.

He pours some coffee, puts a big cast iron skillet on the little propane stove. Packed in four pounds of butter this time. You need that up here. That's fuel. He slices a generous hunk of butter off one of the blocks, and it sizzles in the pan.

"I know what you want, dog — you think you're gonna get some bacon" — as he unwraps some of that and sticks it in the pan too.

Now she's up, tail wagging, her head down a little, still cold.

Dog is ten now, getting old. Is that a little limp he sees?

She noses over to him and he rubs her head and flops her floppy ears.

"Doggers, we're gettin old, we're gettin useless. But it's the weekend, maybe we'll have some hikers tonight. Listen, how 'bout you go get us a newspaper to read? C'mon girl, good girl, only good dogs get bacon."

He leads her over to the door, pushes it open. A gust of cold wind whirls by, throwing stings of snow against their faces. "C'mon, doggers! Newspaper! Firewood! Go!"

She flattens her ears against the cold and looks at him mournfully.

"All right," he says with an exaggerated sigh, letting the door bang shut. "More bacon for me."



H&P

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