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PUT THE LOCK ON UNLOCK MICHIGAN 2

Gregory Gafni-Pappas, DO, FACEP

In July, Michigan state senators voted to approve the Unlock Michigan petition, making way for a repeal of the governor's emergency powers. The petition, signed by over 500,000 Michiganders, limits the governor's emergency orders to 28 days, at which time they can be extended only by legislative approval. The governor cannot veto the petition once approved.

After the governor's emergency powers were limited, she relied on the Michigan Department of Health and Human Services and local health departments to create emergency orders to protect the health of the population in our state. These included such measures as capacity limits and restrictions, and mask mandates and recommendations.

Now the Unlock Michigan coalition is going a step further, rolling out what they see as the next step in curbing emergency orders in the state of Michigan. Unlock Michigan 2, the sequel, aims to limit emergency orders from state and local health departments to 28 days, at which time they would require legislative approval. Directly from their website, they believe that "Governor Whitmer's crushing lockdown of life and business across Michigan is a dangerous threat to our livelihoods and constitutional liberties."

As an emergency physician and strong advocate for public health, I believe Unlock Michigan 2 has gone too far, endangering the ability of our health officials to make decisions based on science and expertise, and endangering Michiganders' lives by NOT putting their health and safety first.

By amending the public health code, we are relying on our legislature, a group of elected officials with little to no medical background, to decide whether a public health emergency should be extended. We are entrusting our lives to untrained people to make medical decisions for us and our loved ones. If you were having chest pain, would you trust your elected representative to diagnose you? When you work in the emergency department, do you need to get approval from a non-medically trained administrator to treat a patient?

I know it's not that simple. There are a number of variables that factor into public health emergencies. Just the mere mention of lockdowns and mandates makes half the population in our state upset. There are financial risks and social risks, not to mention the loss of some personal liberties that we've come to appreciate in our country. Nevertheless, shouldn't those decisions be up to our public health leaders who have the expertise, not our legislators?

If the Unlock Michigan 2 petition gets enough signatures, there are no hearings to listen to experts in the state before passage in the legislature, and the governor cannot use veto power. This is a dangerous precedent that will have perilous consequences into the future. Right now, it's COVID, but what if Ebola or another more deadly disease makes its way to our state? If we take politics out of the equation, we can do what's right for the health of the public. We need to allow our public health experts to do their jobs and protect the people of Michigan.

MCEP stands behind public health and believes in the expertise and decision-making ability of our state and local health departments. We oppose Unlock Michigan 2 and encourage Michiganders NOT to sign this petition. The health and safety of our population comes first. Help us to make sure this occurs when the next disaster arrives. §

REFLECTIONS ON WELLNESS IN THE PANDEMIC

Sara Chakel, MD, FACEP

Let's talk about wellness. Kindness. Being present. Being involved.

Let's talk about humanity.

When the pandemic started, emergency medicine was both the same and different. We had a crush of respiratory patients, an unprecedented pandemic, and, perhaps most strangely, we became national heroes. I've never been in the military, and prior to 2020, no one had ever, ever said to me, "Thank you for your service." We had a good team dynamic going on. We had food galore, with "GI rounds" a near daily occurrence as local community groups supported our departments. Outside of my hospital, there was a man, in a Batman costume, who stood on the street corner for hours, with a supportive sign. I drove by him, and he made me smile and cry at the same time.

For better or worse, with the crush of the initial COVID-19 patients, standard presentations declined to an extent. For the COVID-19 patients, we figured out what worked, from basic interventions such as masks to medical treatments such as proning, steroids, antivirals, and antibodies. We figured out things that didn't work, such as hydroxychloroquine and giving antibiotics to all. We muscled through the lack of PPE by coming together as communities. Local businesses donated what they had. Pictures of ER staff in PPE flooded social media. We got through.

After this, there was a lull in the storm. Volumes declined. Hours were cut in many EDs. We had a break.

Then, another wave. And another wave. And, finally, vaccinations. This could all be over. At last. Or so we thought. When the vaccines were in short supply and the pandemic was in full force, everyone wanted to get a jab. Finally, we had an offensive weapon, something that could protect vulnerable patients and front-line workers. And then we hit a year into the pandemic, and another surge.

To me, the April 2021 surge felt worse than the April 2020 surge. I had pandemic fatigue. In addition to COVID-19 presentations, we were seeing typical emergency conditions that were largely missing in action the prior year. We no longer had businesses sending over food or supplies. We were being asked to do more, sometimes with less. Yet, our patients remained appreciative, and vaccination efforts continued.

This past summer felt like a brief breath of normalcy. Vaccines were now widely available. Case numbers were down to the point that social gatherings and travel felt reasonably safe again. Schools were fully reopening, albeit with masks. Pandemic restrictions were getting lifted.

A strange thing was happening in the ER, though. Staff were getting tired. Many nurses and techs and clerks, who had been pushed to the breaking point, stopped and said, "No more." Hospitals continued to fill up, sometimes with patients who were sicker, having avoided or had difficulty accessing needed medical care during the pandemic. And the COVID patients kept coming, often with more anger and frustration than earlier in the pandemic, regardless of vaccination status. With staffing challenges coupled with increasing sick presentations, waiting times across the country increased. Those who remained behind in the ERs were left with the increasing strain of identifying the sickest of patients, managing patients who are at times understandably angry and frustrated, and trying to help everyone they could.

So, back to humanity.

At the beginning of the pandemic, we were appreciated, thanked, and celebrated. This was odd, as we were doing what we always did in the ED, but with the curtain now drawn back to allow the public to see the value that we bring to healthcare. While the curtain is closed again, what we do as emergency physicians and what our staff does has not changed. We still do the best that we can with the resources that we have, managing multiple stressors at any given moment, putting our patients ahead of ourselves.

When we leave at the end of a shift, we are all humans. We have hopes, dreams, anger, and frustration. We cry after a difficult case. We celebrate our victories. We wonder if we could have done something different or better or more efficiently. We worry that we could still bring the pandemic into our homes despite vaccination and despite unfettered access to PPE. Our staff, of course, has these same concerns.

We don't know what stresses our patients are under, our staff are under, or our colleagues are under. We are humans. We have lives outside of medicine and outside of the hospital. We are doing the best that we can with the deck of cards that is now in front of us. Sometimes, it feels like we got a raw deal.

In this era of unprecedented burn-out and unprecedented ED stress, take the time to be kind to your staff and your colleagues. Take the time to truly listen and to be there in the moment. Do the same with your patients. Express your gratitude and your appreciation, loudly and frequently. If you are struggling, reach out for help. If you see someone struggling, reach out to that person, and let them know that they are not alone.

You are not alone. We are not alone. As we continue to deal with the stress of the pandemic, staffing issues, patient volumes, admission holds, and any number of personal matters, please, be kind. Please seek help if you need it. Please remember, we are all humans, first, last, and always.

September is National Suicide Prevention Awareness Month, and September 17 is National Physician Suicide Awareness Day. If you are struggling, you are not alone. The National Suicide Prevention Lifeline is available 24 hours a day at 1-800-273-TALK.

This column is dedicated to the memory of Mark Bara. §

www.mcep.org

FY22 STATE BUDGET ADOPTED — FEDERAL ARP FUNDS NEXT

Bret Marr
Muchmore Harrington Smalley & Assc.

The Governor signed the state budget just prior to the state's fiscal year starting on October 1, 2021. She negotiated a bipartisan deal with the House and Senate during the month of September, and a number of her spending priorities were incorporated into this deal, mainly education related. Now, the Legislature begins the process of passing multiple supplemental budgets this fall to allocate the state's share of the federal American Recovery Plan (ARP) monies. A strong call has been put out by MCEP, MSMS, and other health care groups to address the behavioral health concerns of Michiganders across all demographics.

Another issue that is an increasing priority for all health professionals, and the entire economy, actually, is the shrinking workforce. MCEP will participate in a large coalition of health care groups to push for funds to help retain current health care professionals and increase the pipeline for future professionals in various healthcare environments. Another large push for health care as a whole are the challenges accompanying the rapid increase in behavioral health encounters. Funding is needed for increased psychiatric beds in hospitals throughout the state and for more staffing resources as well.

VIOLENCE IN THE EDS

MCEP is once again pushing for consideration of legislation to increase the penalties for assaults in our emergency departments. House Bill 5084 and Senate Bill 67 have both been introduced to require signage warning of assaults and increasing penalties. Many legislators are hesitant to increase penalties for patients undergoing stress, and some have suggested we focus our original efforts on enhanced penalties for companions, family members, and caregivers rather than the actual patient. There is also a push legislatively to require county prosecutors to pursue simple assault chargers more frequently.

COVID-19 STATE OF MICHIGAN UPDATE

The Department of Health and Human Services epidemiologic orders expired June 30, 2021. At that point in time, all restrictions, including mask wearing, were lifted in the state in all regions. Data and information on the state's COVID-19 efforts can be found at: https://www.michigan.gov/coronavirus/. You can also find older, expired Executive Orders and DHHS Epidemic Orders on the site as well. §

MCEP Calendar of Events

October 5, 2021
MCEP Councillor Meeting
Chapter Office
Lansing, Michigan

October 12-13, 2021
EMRAM SIMWARS
CMU Simulation Center
Saginaw, Michigan

October 23-24, 2021
ACEP Council Meeting
Boston, Massachusetts

October 25-28, 2021
ACEP Scientific Assembly
Boston, Massachusetts

November 8, 2021
LLSA Review Course
Virtual Zoom Meeting

November 16, 2021
$traight Talk Reimbursement Course
Somerset Inn
Troy, Michigan

OPTIMIZING DOCUMENTATION (HPI)

Don H. Powell, DO, FACEP

As we continue the transition from fee-for-service to fee-for-value, proper in-depth documentation in certain areas will become increasingly important. Likewise, as bad payor behavior in the form of auto-denials and down-coding based on final diagnostic lists increases, it becomes critical that the ED chart reflects the actual presentation, exam, and medical decision making so our RCM teams can continue to effectively utilize the appeals process.

The **history of present illness (HPI)** is part of the history component for E/M documentation. It should provide and effectively tell the story of why the patient is presenting to the ED for evaluation. It should include details on when the patient's problem first started and what led up to the current presentation for evaluation. Information can be obtained from the patient, family, EMS, law enforcement, or other third parties. If the patient is unable to communicate and there are no other sources of information, then a brief statement conveying this information is acceptable.

There are 2 different types of HPI. **A brief HPI** contains **1 to 3 elements** and is needed for levels **99281-99283**. An **extended HPI** provides **4 or more elements** and is required for **99284-99285**. An extended HPI can also consist of the status of 3 chronic conditions but is not as common in emergency medicine.

There are 8 different elements to consider when documenting the HPI: Location, quality, severity, duration, timing, context, modifying factors, and associated signs and symptoms.

Location – Where is the location of the problem? Be specific about the location and include laterality. Examples could be right foot, right upper quadrant pain, lower back, left thigh, chest wall.

Quality – Describe the problem, how it looks, how it feels, what are some characteristics. Think of adjectives that describe the problem. For example, itchy, yellow, tight, sharp, throbbing, stabbing.

Severity – This should indicate some sort of measurement of the severity of the problem. A common one used is ranking the pain on a scale of one to ten. There are other options, though, such as extremely painful, worsening, feeling better, worst headache of their life.

Duration – Patient's statement describing how long the complaint has been occurring. 2 days, 3 years, since waking up, since childhood, etc.

Timing – This is different than duration and should describe a pattern, frequency, or when they notice the problem. Some descriptors include continuous, comes and goes, at night, intermittent.

Context – This element should be the patient's statement of circumstances surrounding the complaint, such as what the patient was doing when the problem started. Examples could be while at football practice, involved in motor vehicle accident, standing at work.

Modifying - This should indicate what makes the problem better or worse. Bending over exacerbates, pain medication provides relief, rest makes it feel better, quick movements increase the pain.

Associated signs and symptoms – Any secondary complaints the patient may or may not have. This can include pertinent positives and negatives. Some examples could be experiencing nausea but no vomiting or having a cough with a runny nose. §

Don H Powell, DO, FACEP
Emergency Care Specialists
President- Medical Management Specialists

Amy Westerhuis, CPC, CEDC, CDEO, ICD-10
Medical Coding Manager- Medical Management Specialists

MCEP BEGINS REGIONAL LEGISLATIVE BREAKFAST MEETINGS

MCEP held its first Regional Legislative Breakfast Meeting in Grand Rapids in mid-October. Legislators from both parties and both chambers joined physicians from Emergency Care Specialists in Grand Rapids for an hour long discussion on behavioral health and other health care challenges. Look for opportunities to host one in your region of the state. Thanks to Dr. Dianna Nordlund for hosting this first event.

BRONCHIOLITIS IS BACK!!

Pamela Coffey, MD, FACEP

Bronchiolitis has become a staple pediatric illness in the winter. Every year, our shop sees what feels like a million kids who present with a few days' history of upper respiratory symptoms that turned into what the caretakers are convinced is pneumonia or asthma. This year, winter came early, and Michigan is seeing a large number of cases already. Our Covid-induced pediatric hiatus is over, and now it's time to get back to work!

Over the years, various treatment options for bronchiolitis have come in and out of vogue. Inhaled steroids, heliox, nebulized saline, cool mist, warm mist, chest percussion, and, of course, bronchodilators have all been attempted with varying degrees of success. In 2014, the American Academy of Pediatrics (AAP) published guidelines for the treatment of acute bronchiolitis in children that was a game changer. In their very detailed report, the AAP gave recommendations for all possible treatments based on an extensive review of the current literature. In summary, they recommended that no treatments, except oxygen and IV fluids, were indicated. Yup, even albuterol was off the table as studies showed its use did not change admission rate, length of stay both in the ED and inpatient, length of illness, or the likelihood of needing further intervention (Pediatrics 2014 Nov;134(5)e1474-e1502). Care is to be entirely supportive, providing oxygen and hydration when indicated. The recommendation was to simply support the child while the virus ran its course. The report was met with varying degrees of skepticism, particularly as it pertained to bronchodilators.

Over the past 6 years, the AAP has fostered several efforts to reduce the number of bronchodilator treatments used for bronchiolitis. A recent study published in Pediatrics in August 2021 looked at the use of bronchodilators for bronchiolitis between 2010 and 2018, and the effects of bronchodilator use on the final outcomes of this illness. The authors studied 446,696 visits of infants under 12 months and determined that although bronchodilator use decreased significantly in this timeframe, there was no significant change in hospital admissions including ICU admissions, ED return visits, or use of non-invasive or invasive ventilation (Pediatrics 2021 Aug;148(2):e2020040394). In other words, not using bronchodilators did not increase the severity of outcomes or need for treatment. This supports the initial guidelines, so why are we still using bronchodilators?

Intuitively, not using bronchodilators for wheezing is tough to grasp. The child in front of us is loudly wheezing, and the standard treatment for wheezing is bronchodilators. Not treating wheezing feels like we are not doing our job as physicians, almost as if we are in some way abandoning our young patients. And we know that some viruses trigger an asthma flare, so why not try? Well, there are several reasons.

First, the mechanism of bronchodilators such as albuterol is to activate beta-2 adrenergic receptors to cause relaxation of the smooth muscles of all airways, including the bronchioles. This is effective in asthma where the mechanism of illness is bronchoconstriction. However, the AAP defines bronchiolitis as an illness caused by a viral infection of the respiratory and ciliated epithelial cells of the small airways causing increased mucous secretion, cell death and sloughing, and submucosal edema. With bronchiolitis, as the airway clears (i.e., with coughing) the degree of obstruction changes, hence the labile clinical presentation often seen when the patient is on continuous pulse-ox monitoring. Thus, the respiratory difficulty and wheezing in bronchiolitis is due to airway obstruction secondary to debris and submucosal edema, not bronchoconstriction, rendering the pharmacological effects of the bronchodilator ineffective.

Second, bronchodilators have significant side effects. The AAP guidelines cite tachycardia and tremors as the most significant, but we also know they include elevated blood pressure, agitation, anorexia, and nausea. In its defense, the half-life of albuterol is only approximately 4.6 hours, and the FDA reports that less than 20% of a single albuterol dose is absorbed systemically with most of that recovered in the urine within 24 hours of administration. (https://www.accessdata.fda.gov/drugsatfda_docs/label/2005/020983s009lbl.pdf). But when we stack multiple treatments in the ED and then send the patient home with more treatments to give at home, these side effects become more significant. According to the FDA Safety Report Updates last updated 9/27/2021, albuterol was still being monitored for its ongoing safety concerns for children, particularly those less than age 4. From the update, "Committee discussed route of drug administration (HFA and nebulizer) for children 0-4 years of age and discussed the safety risk from lack of efficacy for this product for children less than 4. Committee recommended that FDA return to ongoing safety monitoring and recommended that the label be amended to include additional information including warnings for children 0-4 years of age." (https://www.fda.gov/science-research/pediatrics/safety-report-updates)

It is possible there is a role for bronchodilators in treating older kids with a previous history of reactive airways disease. The AAP guidelines only apply to age 1-23 months and exclude those who are severely ill with impending respiratory failure. Asking if the child has ever had bronchodilators when they've wheezed before is ineffective, as often they were given for a previous bronchiolitis illness unnecessarily. A better approach is to screen for asthma symptoms or triggers irrespective of the acute illness. Older children certainly have had more exposure to triggers and thus are more likely to have a reactive component even if it is a primarily viral illness. More studies are needed, which is the conclusion to most of the articles I read in writing this column. The consensus is that bronchodilators are not indicted for patients under age 2 with first time wheezing who are not in impending respiratory failure.

I will leave you with a thought by Drs. Lipshaw and Florin in a commentary titled "Don't Just Do Something, Stand There. Embracing Deimplementation of Bronchiolitis Therapeutics" (Pediatrics 2021 May;147(5)). *"Studies on bronchiolitis treatment continue to be published, even though, over the course of 50 years, the strength of evidence for all treatments is low. We should stop searching for the holy grail. Just accept the fact that bronchiolitis, like most other viral infections, has to run its course, and offer the appropriate supportive therapies."* §

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MCEP RESIDENT CASE REPORT

Katie Artz, DO from Henry Ford Allegiance Emergency Medicine in Jackson, MI.
Andrew Taylor, DO

INTRODUCTION

We report the case of a pediatric patient with acute ischemic stroke who presented to a community hospital. This case highlights the unique challenges in the workup and treatment of stroke in the pediatric population.

NARRATIVE

The patient is a 23-month-old female who arrived with her father from home for evaluation of altered mental status. One hour prior to arrival, the patient, who had previously been well, abruptly developed an impaired gait, right-sided facial droop, and right upper and lower extremity weakness. EMS was called, and the patient was brought to our community emergency department.

The patient had no significant past medical history, was born at full term without complications, and did not take any medications daily. She was unvaccinated per parents' preference. The father denied any trauma, recent illnesses, history of similar events, or significant family history.

Upon arrival to the ED, the patient's vital signs were grossly unremarkable. Point of care glucose was within normal limits. On physical exam, the patient had bilateral gaze deviation leftward but would occasionally look midline with both eyes. She also had 3 out of 5 strength in the right upper extremity and a slight lower right-sided facial droop. She was reluctant to be examined without sitting on her father's lap, so the exam was somewhat limited.

Workup was initiated for further evaluation of altered mental status with abnormal neurologic exam with special consideration given to potential pediatric causes. Our differential included neurologic, toxicologic, and metabolic etiologies, and a broad workup was performed.

Lab work showed a hemoglobin of 5.4 g/dl and hematocrit of 16.2%; therefore, we initiated blood transfusion with 10 ml/kg of packed red blood cells. Total reticulocyte count and percentage were slightly decreased. Salicylate, acetaminophen, CPK, CRP, and lead level were negative. CT head without contrast was obtained which showed ischemic changes in the left temporal lobe and left cerebellar hemisphere (figure 1).

Vital signs remained stable, and the patient's exam was unchanged. Given the need for further care including specialist consultation, transfer to a tertiary center was required. Workup at the tertiary care center included repeat CT head, MRI brain, and consultations with pediatric neurology and hematology. Her anemia was thought to be from transient erythroblastopenia of childhood. On follow up after discharge, the patient is doing well with no clear cause of her stroke identified but with no residual neurologic deficits.

DISCUSSION

Stroke symptoms in young children can present differently than adults, with presentations including lethargy, seizure, emesis, and headache. Similar to adults, the differential diagnosis is broad and includes intracranial hemorrhage, cerebral venous sinus thrombosis, Todd paralysis, migraine, meningitis, posterior reversible encephalopathy syndrome (PRES), and

Bell's palsy. Because ischemic stroke is less common in childhood, physicians can be slow to recognize the potential for stroke, leading to a delay in imaging and diagnosis. A retrospective study of 209 children who were diagnosed with acute arterial ischemic stroke showed a mean time of 22.7 hours from symptom onset to diagnosis.

The physical exam of pediatric patients can also be complicated by lack of cooperation, patient fear, and undeveloped language and motor skills. Patients can also be easily distracted and overwhelmed by the environment of the emergency department. For example, our patient kept focusing on the arm board used to help secure her peripheral IV line. This could easily be mistaken for spatial neglect. Often, having a caregiver present and assisting with the exam can be beneficial for both the physician and the patient.

As with adults, in pediatric patients suspected of having an acute stroke, initial imaging includes a CT of the head without contrast to assess for major intracranial hemorrhage. Regarding lab work, a point of care glucose level should be obtained to quickly evaluate for hypoglycemia, which can mimic stroke symptoms. The differential diagnosis for acute stroke in pediatric patients is broad, and physicians should cast a wide net during the workup. Physicians must consider cardiac, infectious, metabolic, hematologic, and prothrombotic causes.

While many emergency departments have protocols in place regarding use of tissue plasminogen activator (tPA) in adult patients, there are few centers with similar protocols or even policies regarding giving tPA to pediatric patients with ischemic stroke. There are currently no randomized control trials regarding tPA use in pediatric acute stroke. In 2010, the Thrombolysis in Pediatric Stroke (TIPS) trial attempted to determine the safety and pharmacokinetics of tPA in the pediatric setting. The trial also attempted to establish criteria for "the minimal clinical expertise and hospital systems necessary to execute an acute interventional stroke trial safely in the pediatric population." However, there is still no widespread implementation of tPA in pediatric stroke. This is likely secondary to the high burden of extra training, protocols, specialists, imaging, and other resources that would be required. Most facilities that pediatric stroke cases present to do not have all the resources readily available to fully diagnose and treat these patients.

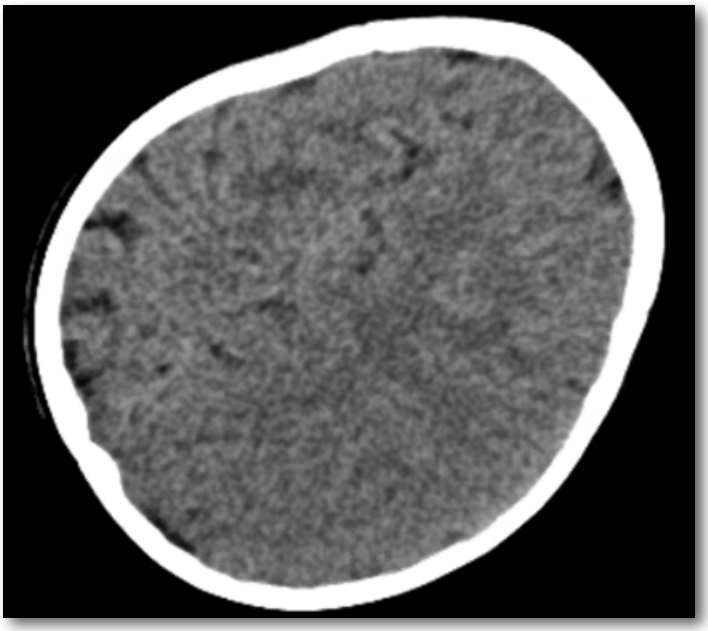

Figure 1- CT Head showing ischemic changes in the left temporal lobe and left cerebellar hemisphere.

Given that pediatric stroke cases are rare, it can be difficult for physicians to remember to include stroke in the differential diagnosis of pediatric patients with neurological complaints. As with adults, time is brain, so we must remain vigilant in the hopes of limiting morbidity and improving mortality. §

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GOING OFF THE DEEP END – THE LIFE AND CONTROVERSIES OF HENRY HEIMLICH, MD

*Bradford L. Walters, MD, FACEP**
*Matthew Drogowski, MD***

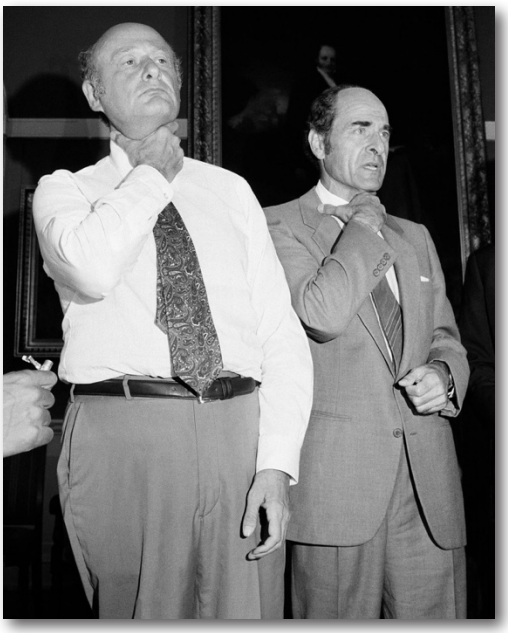
If one contemplates non-emergency medicine physicians in the modern era who have saved many lives in emergent situations, one seminal physician, Dr. Henry Heimlich (1920-2016), comes immediately to mind. We know Dr. Heimlich primarily for his eponymous abdominal thrust maneuver to expel impacted food in the upper airway. In addition to his most famous contribution to medicine, the Heimlich Maneuver, he also invented the Heimlich Chest Drainage Flutter valve and the Micro-trach portable oxygen system. However, his story is more interesting than that of an inventor of clever devices. Later in his life, he became a controversial figure as he became head of an institute that looked to foster innovations in medicine, often rather questionable ones.

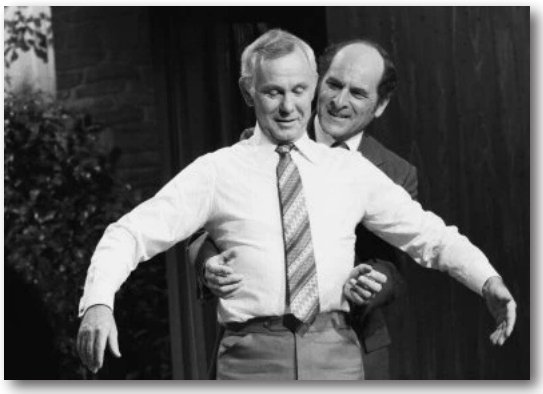
In the early 1960s, Heimlich came up with a device to drain fluid and/or decompress a tension pneumothorax based on a Japanese toy noisemaker that had a length of soft rubber tubing that acted as a flutter valve. It could let air or fluid out but, as a one-way valve, air or blood could not go back in. Given his experience as a thoracic surgeon with a background in war injuries, Heimlich was well aware of the mortality of chest trauma. The Heimlich Chest Drain Valve came at an opportune time with the Vietnam War raging, and medics quickly incorporated the valve into the field treatment of chest wounds, saving numerous lives. In fact, the teaching at the time was to insert the valve directly into the wound opening in the chest wall and then secure it. Today, the valve is seen as part of the kits for pigtail catheters used in the treatment of pneumothoraces.

Dr. Heimlich's most famous medical contribution came in the form of what later came to be termed the "Heimlich Maneuver." He had noted that choking from a foreign body obstructing the upper airway was the fourth leading cause of death in the U.S., with some 4,000 fatalities a year at that time. The most common cause was food impaction, particularly in children. Choking was such a frequent problem that it was termed the "café coronary," as the struggling, asphyxiating patient appeared to be having a heart attack. Standard first aid at that time, suggested by the American Red Cross and American Heart Association (AHA), was to administer several blows to the back or thrust a finger down the throat to clear the obstruction. But there were concerns that hitting a choking victim on the back could dislodge the foreign body deeper into the airway. Heimlich figured that by pressing forcefully on the abdomen, the residual air in the lungs might be used to expel the foreign body. In the lab, he took an anesthetized dog and jammed a piece of meat into the upper airway to create an obstruction. He pressed on the dog's abdomen, and on the third attempt the meat bolus went flying across the room. He published the details of his maneuver of wrapping one's arms around the choking victim and then thrusting upward to compress the lungs and expel the object blocking the airway in a Journal of Emergency Medicine article cleverly titled, "Pop Goes the Café Coronary."[1,2]

Anticipating resistance from his medical colleagues, he also sent the manuscript to major newspapers across the country. Within days, on 6/19/1974, there was a report in Bellevue, Washington of Issac Piha, who used the maneuver to save the life of a neighbor, Irene Bogachus. Mr. Piha had read the article in the local newspaper describing the maneuver and used it on Ms. Bogachus to successfully clear her airway.[3] More formal descriptions of the technique were later published in JAMA and the Annals of Thoracic Surgery.[4,5] The mountain of evidence and case after case of successful use of this abdominal thrust technique quickly silenced critics. Testimonials poured in, including a 5-year-old who saved a playmate after seeing it demonstrated on television. Dr. Heimlich's publicity took off, and he played a major role in self-promoting both himself and the maneuver such that in 1975 it was endorsed by the AMA and given the name, "The Heimlich Maneuver." He appeared on the Johnny Carson Show in 1979 and with Mayor Ed Koch of New York City in 1981 to demonstrate the technique. Notable persons who had near-death incidents from choking on food but who were saved with the Heimlich Maneuver include President Ronald Regan, Elizabeth Taylor, Goldie Hawn, Cher, Walter Matthau, Carrie Fisher, Dick Vitale, and John Chancellor. The Heimlich Maneuver became a national safety standard and a common rescue technique taught in first aid classes and schools, including to medical students and physicians. Nobody knows how many lives have been saved by the Heimlich Maneuver, but certainly in the thousands. The Heimlich Institute claims over 50,000 lives saved, with a New York Times editorial in 2009 saying 100,000 people have been saved from choking deaths. Even Dr. Heimlich, at the age of 96, some 40 years after inventing the maneuver, saved the life of 87-year-old Patty Ris who choked on food at a senior residence in Cincinnati.

However, Henry Heimlich was not without his controversies that, in the end, marred the reputation and legacy of one of the more creative physicians in medical history. During the time he was deployed in China, he claimed to have invented a treatment for river blindness, trachoma, using a mixture of antibiotics in shaving cream. It seems odd that he offered no credible information for what, at that time, was an incurable infection that took a huge toll on people who became infected. In the early 1980s, as director of the Heimlich Institute, he was an outspoken and strong advocate of what was known as malariotherapy. This treatment deliberately infected patients with malaria in order to treat a variety of diseases including cancer, Lyme disease, and HIV. The theory was that the high fevers that resulted would kill the offending organism. As one might expect, reactions from the medical community and human rights groups were quite negative, and malariotherapy was deemed unsound and dangerous. Heimlich ended up going to China to conduct some malariotherapy experiments, but, again, the results were never published despite the controversy it produced.[6,7,8] In a classic *when all you have is a hammer, everything looks like a nail* move, Heimlich started to advocate his maneuver for other problems in addition to upper airway obstruction. He claimed that drowning victims should have three abdominal thrusts to expel water prior to initiating CPR. Lifeguards across the nation were taught this, despite no credible evidence on its efficacy and ignoring the fact that a large proportion of drowning are "dry" with little fluid in the lungs. In fact, there were allegations of fraud





Dr. Henry Heimlich (far left) demonstrates the signal that one is choking for then mayor of New York City, Edward Koch. In the middle picture he demonstrates the maneuver on the Tonight Show to Johnny Carson.

The Heimlich Chest Drain Valve

and specific admonitions by the AHA against using the maneuver in a drowning victim due to the potential risk of vomiting or aspiration.[9] He also advocated the maneuver in the treatment of asthma, going as far as to say that weekly abdominal thrusts were helpful in avoiding attacks. In addition, Heimlich suggested that his maneuver could also be used to treat cystic fibrosis and even myocardial infarctions. No credible evidence was offered by Dr. Heimlich for any of these recommendations and medical experts almost universally did not advocate his approach.

By 2005, the American Red Cross had revised its recommendations for *foreign body/airway obstruction* (FBAO) to first administering 5 back blows and, if unsuccessful, then doing 5 abdominal thrusts. They also dropped the term "Heimlich Maneuver."[10] One of Dr. Heimlich's most outspoken critics was his son, Peter, who asserted that the Heimlich institute and his father had conducted "abusive" experiments in third-world countries endangering a great many people. Dr. Heimlich was unrepentant and undeterred, going on to publish "Dr. Heimlich's Home Guide to Emergency Medical Situations" in 1980 that espoused many of his more questionable claims. This publication was in addition to speeches and television appearances advocating his ideas. His animated program for children, "Dr. Henry's Emergency Lessons for People" won an Emmy award in 1980.11 While Dr. Heimlich's reputation among his peers certainly suffered, he remained a hero to many who survived a choking episode after receiving the Heimlich Maneuver.

While not an emergency physician, we in emergency medicine have certainly benefitted from both his maneuver and valve. We suspect there are more than a few of you who are reading this who might have benefited yourself from the Heimlich Maneuver. Yet, Dr. Heimlich's life can also serve as a cautionary tale where one becomes so anchored to one's own opinions while ignoring evidence to the contrary and without undertaking the arduous science to establish the benefits of a therapy. Being a world-famous physician makes that cautionary admonition all the more poignant. In the end, maybe one should pay more attention to that motherly advice, *"Chew your food well."*

**Core Faculty, Beaumont Health Emergency Medicine Residency, Department of Emergency Medicine, William Beaumont Hospital, Royal Oak, Michigan. Associate Professor, Oakland University William Beaumont School of Medicine, Rochester, Michigan.*

*** PGY III, Beaumont Health Emergency Medicine Residency, Department of Emergency Medicine William Beaumont Hospital, Royal Oak, Michigan.* §

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HOW TO CHOOSE A HEALTH INSURANCE PLAN.

Open enrollment is right around the corner. When choosing health insurance as an independent contractor, the first step includes evaluating whether an underwritten health plan is appropriate for your family. Begin by evaluating the health history of your family members. If health history is favorable, an underwritten plan may save cost. If health history is more substantial, a marketplace plan that does not take prior health history into consideration may be optimal. Additionally, joining a physician business group or small business enterprise group may add options through group plans offered to members.

Once you have narrowed down your choice to either an underwritten plan or a marketplace plan, you can begin evaluating the underlying insurance plan options. With so many variables to compare, the process can seem overwhelming. The cost of your plan will be determined by more than just the monthly premium. Make sure to examine the deductible, co-pays, co-insurance, maximum out-of-pocket expense, and your estimated usage. Do you have monthly prescriptions? How often do you go to the doctor? Tabulate these variables under high, moderate, and low usage scenarios and then compare plans.

First add up the monthly premiums. Think of these as a "pre-payment" for healthcare coverage. These premiums will be paid whether any additional healthcare needs present during the year or not. This is the base cost of healthcare.

Second, add the deductible to this amount. The deductible is the amount paid out-of-pocket by you for covered healthcare costs. Included in this amount are any charges related to illness/injury and any care not covered by government-mandated "well care". On a side note, take advantage of all mandated well care! Women, get a mammogram every year! Take children in for annual well-child checks and vaccines. Men, a physical is included every year with your ACA-compliant health care. Take advantage of the benefits included with your health insurance premiums. Prescriptions may be charged as a part of the deductible or may be on a separate schedule.

Third, estimate co-pays. A co-pay is an amount paid at the time of service. Co-pays may apply for "sick" office visits, x-rays, emergency room visits, etc. Each health insurance plan has a list detailing if and when copays apply. Tally up co-pays with high, medium, and low healthcare needs for your family. Prescriptions may be charged a copay or may be on a separate schedule.

Fourth, estimate co-insurance. Co-insurance is the percentage of the bill that is owed by the insured after the deductible has been satisfied. Is your portion of the bill 20%, 30%, 40% or more? The bill that results from your co-insurance percentage may be substantial. What if you received a bill for $100,000? Would you owe $20,000, $30,000, or more to the hospital? The amount you will owe in this scenario will be capped by your "out-of-pocket maximum" (OOPM) for each plan option. For example, if an OOPM is listed as $15,000, a majority of this cost would be made up of co-insurance. The OOPM will always be incorporated into your "high usage" scenario.

Consider a few examples where prescriptions are considered a part of the total healthcare spending and apply towards the deductible and total healthcare costs.

Low healthcare usage:

$500 monthly premiums x 12 months = $6,000 annual premiums + $0 applied towards deductible + 0% co-pay + $0 co-insurance + $0 prescriptions = $6,000 minimum annual cost for healthcare

Medium healthcare usage and $11,000 in medical bills:

$500 monthly premium x 12 months = $6,000 annual premiums

$11,000 medical bills - $5,000 deductible - $0 co-pay = $6,000 remaining

balance x 20% co-insurance = $1,200 owed by the insured.

Total premiums paid by insured: $6,000 annual premium + $5,000 deductible + $1,200 co-insurance = $12,200 annual cost for "medium" healthcare usage.

High healthcare usage and $150,000 in medical bills:
$500 monthly premium x 12 months = $6,000 annual premiums

$150,000 medical bills - $5,000 deductible - $0 co-pay = $145,000 remaining balance x 20% co-insurance = $29,000 owed by the insured.

Out of pocket maximum is $15,000 per insured per year

Total premiums paid by insured: $6,000 annual premiums + $15,000 out of pocket maximum* = $21,000 annual cost for "high" healthcare needs. *In this example, the $5,000 deductible is included in the out of pocket maximum. Plans will vary – deductibles are not always included in the out of pocket maximum.

Evaluating low, medium, and high healthcare usage results in expenses ranging from $6,000 to $21,000 in a given year. This can be a significant factor in a family's budget without proper planning. If a healthcare plan is a high deductible qualifying plan, funding a health savings account (HSA) can help offset these costs. HSAs may be used for healthcare costs as defined by the IRS. (They may not be used to pay for premiums.) Health savings accounts may be funded for $3,500 per individual or $7,000 per family per year of eligibility. They are tax-deductible upon contribution and tax-free when spent on qualifying healthcare costs.

Understanding the range of possible annual healthcare costs is an essential step in financial planning. Make sure to add healthcare spending estimates to your budget. As you can see, there is more to consider than only the monthly premium. Ideally, add the deductible amount into your emergency fund calculation and HSA savings (If your healthcare plan is HSA eligible). More conservative families will save the OOPM amount in their cash funds. §

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