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Presents

Collected Clinical Tips©

*from the experience and wisdom of its Editors
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290 “*The Twin Pillars of Success!*”

If you follow AENJ’s tweets, on December 26th, 2018, we responded to discussion of BVM mask techniques by principals who urge [two-handed mask](#) usage essentially differing in terminology [officially, C-E vs V-E in one; and C-E vs TE in the other], but colloquially as “thumbs down” or “thumbs up”. We proposed “*The Twin Pillars of Success!*” as a better choice that avoids the direction of thumbs but gives a goal-directed term implying the strength and support of the architecture of structures (head & face, neck and upper airway) whose integrity is essential to patient survival.

“C-E method” is a modern term to describe one-handed (unassisted) mask hold by anaesthetists while also operating a gas machine placed to the right of the patient and squeezing a breathing bag thereon, keep notes, *etc.*, before the patient was ‘deep enough’ for intubation. They were said to grow hypertrophied forearms, and powerful claw-like grasp. Sometimes, a head-harness, *e.g.*, Clausen’s would be used to assist or to be able to keep a finger on a facial pulse. This art-form requires experience, deftness, aptitude, and may not work with unparalyzed patients who are restless or have structural leaks.

Outside the hospital, as regulation grew driven by distrust and bias from hospital based providers, rescuers lost harnesses previously used (not trusted in case of vomiting); rubber masks (concealing vomiting and exhalations) for hard transparent plastic shells; oral airways, if any, became softer, instead of metal. ‘Automatic resuscitators’ (can’t use with compressions) or ‘Demand Valves’ (too much pressure & flow – many medical staff thought patients received the line pressure of 50 psi) were junked in favor of BVMs, which are not easily used in the mobile environment of head-wrestling an agitated semi-conscious patient; where help was not always available.

In awkward circumstances or a difficult airway, help is needed, two hands are needed for mask control, another person is needed to actuate the bag or ventilator; more for chest compressions, and if an

'advanced' airway is needed, so is staff for that and resuscitative measures. Airway control is the most essential prerequisite, so it's 2, 3, or 4 hands needed to make a leak-proof mask seal.

Two (or more) hands allows balanced symmetrical mask seal to the face by thumbs or thumb-bases (thenar eminence); better grasp of the mandible; avoids pushing in under the jaw/tongue or of the neck; allows the lift & thrust of the mandible (instead of just a 'little finger' under the ramus of the jaw). Tensioning of the neck and pharyngeal tissues also occur. Lifting and positioning the head (beware: cervical spine injury) can open the airway further as the pharynx changes diameter.

So, until you are able to insert a supraglottic airway, intubate, or do emergency front of neck access {E-FONA}; use 2 or more hands to control the mask. It's not a sign of your failure, it's the sign of a professional using help to prevent failure of the airway and resuscitation. Thumbs down or thumbs up: the "*Twin Pillars of Success!*"

Maticc, A., Galgon, R., & Joffe, A. (2014). [Efficacy of one-handed ventilation techniques](#). *Anaesthesia*, 69(7), 794-795. [PDF] DOI: <https://doi.org/10.1111/anae.12769>.

Fei, M., Blair, J. L., Rice, M. J., Edwards, D. A., Liang, Y., Pilla, M. A., ... & Jiang, Y. (2017). [Comparison of effectiveness of two commonly used two-handed mask ventilation techniques on unconscious apnoeic obese adults](#). *BJA: British Journal of Anaesthesia*, 118(4), 618-624. [PDF]

Gerstein, N. S., Carey, M. C., Braude, D. A., Tawil, I., Petersen, T. R., Deriy, L., & Anderson, M. S. (2013). [Efficacy of facemask ventilation techniques in novice providers](#). *Journal of clinical anesthesia*, 25(3), 193-197. {Abstract/Preview only; Paywall} [PDF]

291 My finger snaps and gets stuck!

A patient may say to you: "Sometimes, when I'm asleep or waking up, or my hand is overtired, this finger may just snap into a locked position. It hurts, and it hurts at the base of the finger when I touch it." You do a short confirmatory exam. You tell the patient: "This is Trigger Finger Syndrome" (sometimes called 'stenosing tenosynovitis'). The diagnosis is clinical, not usually needing X-Rays.

Inflammation of the tendon and its sheath leads to a 'catching' sensation and a painful snapping as it is released from flexion. A nodule may form on the tendon which is palpable and tender at the base of the finger. Commonly females>males, ring finger (but others may be involved), may be associated with diabetes, RA, gout, which can affect prognosis. Age is commonly in 50s and 60s. ~200,000 cases *per annum* in the USA.

You ask how it's been affecting him/her and give several options and assurances. Most conservative course is rest/splinting/NSAIDs. Steroid injection into the tendon sheath, sometimes repeated after three months, gives excellent results. Difficult cases (especially of the thumb) progress to one of several operative release procedures.

Clifford R. Wheelless, III, MD. [Trigger Finger / Tenosynovitis](#). [Wheelless" Textbook of Orthopaedics](#). Last updated June 9, 2016.

Satishchandra Kale, MD, MBBS, MBA, MCh(Orth), FRCS(Edin), FRCS(Tr&Orth). [Trigger Finger](#). Emedicine.medscape.com. Updated: August 27th, 2018.

292 Are you getting hungry?

Have you noticed whether the eating facility where you work tends to run out of food? Does it have much storage space? *Just how many days of food does it have stockpiled?* Does it rely on a logistical plan of "Just-in-time" deliveries? Is roadway access such that it might be disrupted during unusual weather or community emergency?

Answers may not be revealed outside of some '*small meeting rooms*'. Frankly, if there is a disaster, demands for food may go way-y-y up! Staff will hold over. Off-duty staff and neighbors may volunteer. Patients may not be easily discharged if there is road or outside facilities disruption. Displaced families of patients and volunteers may camp in the hospital and need food. When neighborhood supplies are consumed (two days), the public will line up hoping for a soup kitchen. Their estimates of how much food is stored may not accord with reality.

Unfortunately, running a good emergency facility necessitates butting our noses into the planning of other departments and administrators who want to tell us that "we've got it covered." But, *hard questions* must be asked by those on the "tip of the spear" or the "bleeding edge." Yes, other departments must execute, but they need to have the same sense of urgency as we. It is likely that they expect to get extra deliveries from their regular suppliers under good conditions, and are unlikely to have considered broken roadways, electrical lines down, water contamination, and gas leaks. If the kitchen is unserviceable, do they have a satellite location prepped to pick up the slack? Will it keep crowds away from functioning buildings? Are there long-storage foodstuffs laid away to last for a week or two with a feeding population thrice normal capacity?

California Wildfires. Earthquakes. Hurricanes (e.g., Katrina or Sandy). Floods & landslides (may follow fires or earthquakes). Large explosions. Terrorist attacks. In the Tokyo Sarin Release, one hospital received 600 patients in the first hour.

We have to think big. We have to be clever. With increasing urbanization, the populace are unaccustomed to "laying up supplies for the winter." Supply and service shortfalls are expected to be made up by the government, which does not have a good track record of prompt response. Needs unmet, lead to looting and disorder, compounding other problems.

How many of your department's people will serve on the needed committees and press for ample and urgent preparation?

293 Unsafe Speed

When a patient is critical or decompensating rapidly and is being moved on a wheeled stretcher; if you find yourself being bumped or pulled by the stretcher, it is most likely that your 'helpers' are caught up in the moment and going too quickly. It's not uncommon to have a "What's going on?" moment, not realizing it *is* your helpers making things go awry. Hospital staff seldom *train* as teams or partners in transports as prehospital care crews do. Variability of staffing may mean that those assisting may not have worked together before. Prehospital crews may be happy to assist in lifts in urgent moments without waiting for a hospital 'Lift Team'.

Rapid stretcher movement and sudden stops or alterations, may not only injure staff, but may alter the patient's position, physiology, and emotional equilibrium. Disregard for cross-traffic, stability during turns, and jolting over door sills, elevator gaps, and building joins, may increase pain, add to injury, or dropping important equipment. It is possible for thoughtful quick transport to be smooth and pain-free, with care for controlled motion and good leadership.

Physical assistance to patients who are upon the floor, should not be the common ungainly pulling upwards. It should be preceded by assessment for new injury. A hand stretcher or blanket lift can with teamwork can bring the patient into bed without hurting him or the team.

A straight chair can be slipped under or rolled against the fallen patient as a means of bringing him to a sitting position with the help two staff.

When no wheelchair is available and a patient must be promptly brought to a treatment room, either an empty stretcher can be brought to the patient or the wheeled office chair of the Triage Nurse can 'roll' the patient to treatment. (Be extra careful with the office chair as its wheels are small, center of gravity higher, and not purpose-built as would be a proper wheelchair. Rolling it with the patient facing rearwards may help if the patient cannot be relied upon to keep the feet lifted.)

If you're fortunate enough to have a little extra 'slack time', a brief practice session with staff can be a fun and worthwhile break in routine.

294 Elder Fall

A 71-year-old man awaits you in the cubicle.

"Hi, how can we help you today?"

"My right leg hurts from a fall, yesterday at 3:30 pm."

{Wow. What a great 'chief complaint.' Looks normal; acts normal; speech clear.}

"How did that happen?"

"My wife put up a board to confine our old dog, who has diarrhea, to the kitchen. I didn't see the board because of a bill I was looking at and tripped over the board when it blocked me at the feet and knees. I was able to 'roll' and not hit my head."

{Clearly mechanical fall: no syncope/TIA to rule out; no head injury or amnesia; this simplifies things; happened at home: no Workers Compensation or reporting to do. Gives great history.}

"Do you hurt anywhere else?"

"No, just one injury. I put a cold pack on it right away and elevated it. Later, I took some Naproxen."

{Gee. I wish I could get him to type the chart, too.}

"May I take a look? Is there any numbness or tingling?"

"No, it just pulls and hurts when I move. It's a stretching or tightness from the lower back of my thigh to the upper third of my calf, —as it did when I went over the board, but no snap or pop. It does give way from pain when it's bent, but I can stand on it with full weight or pound on the bone okay."

{Exam confirms statements. Mild swelling. Tenderness at junction of posterior middle & distal thirds of the thigh. No ecchymosis or palpable hematoma. Contour and range of motion OK.

Patient appears comfortable at rest, but painful limp when stressing the injury, leaning harder on cane than from his usual chronic back pain.}

"I'm not here for pain medicine. I haven't had an injury like this, nor a friend who's had this: I just want to be sure that I don't make it worse. It seems like a strain, but I don't want it to rupture."

{That's a relief. So much anti-opioid pressure. Meds review shows patient has adequate meds.}

"You're right. It is a strain. People call it a hamstring strain. It's going to hurt for a while, perhaps four to six weeks until it heals. Keep using cold and heat to relieve it. NSAIDs, but protect your stomach. Graduated exercise, and some careful stretching, like this ..."

"Say, you're pretty good at telling your story; why?"

"I come from a medical family. They taught us to organize it. They said, "it should be a school requirement!""

"They were right!"

295 Handcuff Injuries

One way of distinguishing the 'socioeconomic' class of your facility or activity is how often it must deal with patients who are handcuffed or manacled. Generally, 'public' ie government operated facilities will, more likely, interface with authorities and those in their custody, than 'private' or upscale facilities. You might also be in an area where 'sweeps' or large-scale arrest and detention operations are occurring,

Patients in custody may be brought to you for care due to: exacerbation of their own health problems; for mandatory medical clearance because of health, intoxication, arrest injuries or exposure to chemical agents; or injuries received as a victim or combatant. While in your care, they will usually be supervised by an officer, and if deemed a flight risk will be handcuffed to the bed.

Regardless of reason for exam, the patient should be checked for injuries or latent injuries, as the consequence of being in custody. The history given may be limited or unreliable, as the prisoner may not feel able to speak freely and incur 'punishment' from the authorities, other prisoners, or even his own confederates. At times, officers have been known to minimize the 'event', or say they "weren't there" or "he fell."

You should be able to ask for periodic repositioning of limbs and rotation of cuff site, just as any patient who is immobile needs repositioning. Inspect for abrasions, lacerations, neuropathy or apraxia. X-ray when necessary to clarify potential injury.

Handcuffs are of several types: chain-linked traditional style; rigid bar; hinged cuff; or disposable 'flex-cuffs' similar to large and sturdy cable ties. All are capable of injury, either in application, or after. Additionally, as the population increases in size, so too, special large-size restraints have been made, or if not used, one prisoner may have two handcuffs: one on each wrist, and then to the other, so as to allow for the greater span between shoulders, which may be strained if confined too closely, and compression plexopathy or impaired circulation might be encountered.

Most metal cuffs have a swing-through ratchet that moves through the stationary bow so that it may be quickly fastened. If not 'double-locked' by a special pin or key so that the ratchet cannot

move in either direction to minimize injury, continued pressure on the bow increases the tightness and compression. Likewise, if the cuffs were inadvertently double-locked when snapped against the wrist, it would act as a hammer; this can also happen if in the struggle the cuff was inverted when snapped against the wrist. The moments of greatest struggle or attempt to escape are when one wrist is cuffed and the other is free; freedom is to be lost and great resistance may occur (even if just repositioning on the bed).

Bulky dressings should not be used on the area where the handcuff will be affixed. They may be picked apart to try to slip the wrist free, or if long enough used as a means of suicide. Medical staff at the custodial facility should be informed prior to transfer and may have useful suggestions. If restraints, transport, and medical needs are incompatible, the patient may need further consultation or admission.

Excellent documentation is essential to protect all parties should there be contention as to what 'really' happened.

Payne-James, J. J. (2016). [Restraint Techniques, Injuries, and Death: Handcuffs](#). ©Elsevier. Retrieved from www.researchgate.net.

296 Most Important Staff Member?

Absolutely; every staff member, from cleaner or transporter to Chairman of Department, has importance and value, but, in some moments the importance of individual thought and action can be decisive in a case or the success of the department.

Very often, that person is the Triage Nurse. Similar to a patrolling soldier leading at the 'point', the *triageur* or *triageuse* is likely the first to recognize to recognize danger. Until active treatment begins, that person is the 'face' of the department and the hospital to the patient and family, and certainly the words of Maya Angelou apply: *"I've learned that people will forget what you said, people will forget what you did, but people will never forget how you made them feel."*

The complex job of Triage calls for the talented extraction of signs, symptoms, and usable information of history and events while also evaluating the mental and emotional status of the patient and adapting this process dynamically to persons of disparate comprehension, ages, disabilities, language capabilities, while always under time pressure of new arrivals being aware of activity in the waiting room.

This person must have a wide and deep knowledge base of disease, injury, medicine, and surgery. This informs a remarkable ability to ascertain problems, skip to other details, find pertinent positives and negatives, and convey data and suspicions to others. The notes will often say "Consider ... " "Concern for ..." Possibility ... ". This does not replace the full diagnostic process but heightens it by avoiding neglect of considerations. Brilliant Triage Nurses also have "the eye": the ability to look at a patient, take instant action, bypass the routine triage process, bring the person 'straight back' and alert staff of a critical patient.

How do we recognize and diffuse these abilities among the staff? The department's charts have a review process. This doesn't need to be an anxiety-fraught Morbidity & Mortality Review, or a "Risk Management would like to talk with you" event. When Triage Notes have an unusually

high concordance with the patient's diagnosis, course, and outcome, the author should be recognized among staff at a staff meeting, and the contributing elements shared in discussion.

In such manner, we can help ensure that the person on duty at the 'point', whoever of the staff it may be, is the best person for the job at the most important place.

297 How to get what you need

Once upon a time, in a far-off fabled land, The Ruler provided free emergency care to his people. Clinics and ambulances were provided, and if the problem was very severe, one could be taken to The Really Big Hospital for Really Big Problems, which was another thing altogether. At the small places, one was never asked for payment in money or kind. Naturally, these were run with a small and strict budget. Basic needs came from an office; larger items and drugs came from The Really Big Hospital. It worked, but they never had our government's problem of *"Hurry up and spend all the money before the end of the Fiscal Year, or we'll never get an appropriation of that size again!"*

Squeaking through like this whenever supplies were ordered, sometimes left them a little short of suture, medicines, or maintenance needs. Clever chaps found that by changing a letter code on the request for suture meant instead of getting a measly dozen sutures from the office meant that TRBH would have to fulfill the order and a box of *three dozen* would arrive. Problem over. This principle inspired many necessary corrections which improved the care delivered.

In another nearby land, the ordinary supply requests were supplemented by a night shift nurse, who became known as *"The Midnight Quartermaster."* This person ensured that there were always spare bulbs for laryngoscopes and slit lamps, deficiencies were made good, and that daytime requests not answered by busy daytime staff (*"We can't find that"*) were found by going downstairs at night and hearing *"Yeah, sure, help yourself"* from the single worker, otherwise busy. With knowledge thus gained, TMQ could solve problems, find new and better instruments or trays, expand clinical use of products previously unaware, and more. Relations with "downstairs" and services improved, and liaison solved needs before problems occurred. Nursing time was saved: to prep for chest tubes switched from one skinny tray and a lot of looking for drainage sets, tape, thoracic catheters, disinfectants, suture, *etc.*, into one complete bundled set.

Is your mind now alive with possibilities? To deal with logistical inadequacies, clinical people must own the problem, learn the system and resources, and interface on a *human* basis with the supply side, know their storage and capabilities better than they do, and be aware of new offerings from vendors which better suit one's needs. (No one will offer you a better product, unless you help them to know how and why it is needed/better and what value is provided in the switchover.)

Problems with the supply department are our problems until we help them find *shared* reasons to make changes.

298 A blue girl feeling blue

It was a cold, blustery day with intermittent downpours of rain. Two young women came in, from their shopping excursion, one very concerned about herself, and her companion very concerned about her friend.

"My hands have *"turned blue!"* exclaimed the patient. Indeed, they had turned an even shade of lightly Smurf-blue. A few minutes of registration had passed, so they were not cold, nor wet, or wrinkled. Measured temperature was normothermic. Medical history was unremarkable, without other complaint, and denying any physical distress. No history of Reynaud's Phenomenon.

Central cyanosis was absent. Peripheral sensation normal. Skin temperature normal and equal in each digit. Digital Pulse Oximetry of each digit was normal and equal. Skin proximal to the hands was normal. The nailbed color seemed to have been spared. The friend was completely unaffected eliminating shared exposures to toxins.

Having regarded the weather and the patient's garments, a clinical experiment of applying an alcohol wipe vigorously to the affected skin *removed* the color, thereby demonstrating a stain rather than pathology.

Whilst shopping, a pair of skinny jeans in 'overdyed' Indigo had been bought and worn out of the store. Another downpour had soaked them causing dye transfer to the hands stuffed in pockets for warmth. The patient was directed to a restroom to inspect her legs for dye transfer, and the ability to remove it, which proved true, to the patient's, and friend's, relief.

299 Airway Obstructed, or is it?

You are working with a youth group that you support that is making camp on a weekend overnight hike. You're a few rural miles out of town, in a mountainous area from the nearest suburban town. There is no cell phone service, but there is a landline phone at the Ranger's cabin, one mile away plus a 200 yard hike uphill to the dirt road.

Your name is called for an emergency. A 13-year-old lad was walking and talking while popping a large "hot cinnamon" hard candy into his mouth. You are told *"he is choking!"* As you approach him, he is walking towards you with normal gait, looking uncomfortable but without distress. He is not cyanotic, and is talking. You are asked if he should be given *"-a Heimlich."* You gently suggest that he *"doesn't seem to need one, right now."* The lad reports that the candy (~3.5 cm diameter) is "stuck"; he localizes it under the manubrium, doesn't have excessive salivation, and speech is clear. You conclude that the blockage doesn't presently threaten the airway, but a sip of water can't seep past into the esophagus.

You deputize another leader to escort him uphill to the juncture with the dirt road, and proceed to the Ranger's cabin to notify him, the parents, and the ED a few miles away, and to retrieve a vehicle in which to transport the lad. (The rural road would be difficult for an ambulance, and while stable, —he doesn't need it, nor would it have Advanced Airway abilities & cricothyrotomy is not within their permitted skills). You return to the boy and transport him. With this plan, he is calm and without panic.

As you meet the parents at the ED entrance, their son gives a gulp and says that *"it's gone down."* Apparently, the diameter of the candy has decreased in the interval from a slow melt. He

no longer localizes any pain along the esophagus. There is some residual irritation but seems fine. You urge the parents to have him checked in the ED, but they exert their parental rights and decline to have him examined; they want to take him home as he would also like. You explain the risks and cautions, which they accept, and affirm that they will have him checked if there are problems. During the overnight, you teach the others the what they need to know, improving their first aid knowledge, and why "a Heimlich" would not have been helpful or indicated. You find later that the lad made an uneventful recovery with irritation dissipating.

300 When you gotta' go, and can't ...

An interesting study has been published from China, that examines "Four hundred eligible operating room nurses in five hospitals" who were surveyed as to stress and toileting behaviors. This group would be substantially similar in some aspects to emergency staff, who, likewise, might be expected to work through a stressful period of work.

The finding was "*Overactive bladder was highly prevalent in both male and female nurses working in operating rooms. Approximately one of three nurses reported experiencing an overactive bladder.*" It was common for male and female nurses to hold their urine or to strain at voiding when able to do so. It was felt that this contributes to the likelihood of overactive bladder. This would be a significant finding.

Expectation that emergency staff will *work on through peak periods* and be 'resilient'. "*Suck it up*" and *'you have to expect that'*. This now suggests that there are physical consequences that may be lifelong. I think such stress adaptations are common in our field, and one would think that among our fellows there must be some who have suffered such damage.

'Resiliency training', work stress, healthcare professional suicide, work-life balance, "[beauty to death ratio](#)", are popular subjects of concern currently. Surely, many deleterious aspects of our work are not fixed with 'training', but by changing the system, its environment, and adequate staffing to provide coverage, *even at peak periods*. Missed and hurried 'meals', 'breaks' that never come, decompression time that is needed but not available; all contribute to the worst aspects of what we do. When we provide human services, we must do so humanely for those who do the work.

Xu, D., Zhu, S., Li, H., Gao, J., Mou, H., & Wang, K. (2018). [Relationships among occupational stress, toileting behaviors, and overactive bladder in nurses: a multiple mediator model](#). *Journal of advanced nursing*. First published: 26 December 2018. {Abstract & Paywall}

Levitan, Richard M., MD. "beauty to death ratio". Twitter. 9 June 2018.

<https://twitter.com/airwaycam/status/1005606368869412864>

22 October 2018, and others, *passim*.

<https://twitter.com/airwaycam/status/1054593339134238720>.

301 “You should have seen the place ...”

You and your special response team are in the home of an chronically ill elder, who has a severe acute exacerbation of COPD. Access to the patient is awkward and difficult due to immense clutter occupying every surface; seemingly there is only a narrow path to the bathroom and kitchen. If anyone starts to move something in the two to three foot (60-90 cm) high piles near her (within the one meter range of an outstretched arm with torso leaning), she snaps angrily “Don’t *touch that*, it’s important. I need it!” There isn’t even space to sit with her.

What do you make of this? Why is she crotchety about ‘her things’? As debility increases, the ability to do household maintenance and organization becomes ever more difficult and exhausting, leaving tasks incomplete or undone, yet like spam in an email inbox, more accumulate continuously. Frustration and depression mount, burdening the soul with guilt; ‘helpers’ are forestalled with intention that cannot be realized, and the patient becomes defensive to criticism: “I can’t help it! Essential needs from eyeglasses to unpaid bills remain in the hemi circle of reachable piled clutter at the head of the bed. This is the patient’s ‘span of control’, the defensible space where things are found. When the disease cannot be controlled, nor the environment mastered, the patient’s world shrinks to the space of reach, and possibly that within earshot of a caregiver.

One patient refused to allow caregivers to turn the home hospital bed 90° to give 3-sided access; instead, it was transverse in a bay window with the head and fit blocked by furniture and boxes. This frustrated the caregivers but let the patient read in good light and gaze contentedly at the nearby gardens to achieve some serenity.

Concessions to the felt concerns may be needed to examine and treat the patient. “*I’ll put them right here where they’ll be safe, and you can see them.*” There may not be room for all monitors and equipment; gear may have to be passed by hand from outside the circle of care. Patient removal may be by log-roll and hand-stretcher, carrying canvas, or scoop stretcher. In urgency, if the patient is unable to take assisted steps to an emergency cot, hand-lifts and carries will be needed, such as two or three lifting the patient in arms and curling to their chests while side-stepping to an open area. At times, lifting straps may have to be passed under the patient to have handholds for removal, from the bed or bathtub. If the patient has pets, beware of animal excrement, or even an overly protective guarding behavior, or simple fright-bites.

Locking-up or arranging custody of the premises, and any animals, must be done. Neighbors will certainly notice the emergency activity and note no one being home. This puts the victim’s home at risk for burglary. It may be necessary in some circumstances to not only lock-up but also have the premises “Sealed.” Make sure that your team have obtained the patient’s personal and medical identification, health plan cards; listed the medications or bagged them; keys; personal valuables that are needed or can’t be safely left. Authorities, Conservators, and Medical Social Workers ought to be informed, especially if post-hospital disposition may be difficult.

302 What kind of ‘Dizzy’ do you feel?

Signs require a practiced perceptive observer who records findings. Symptoms need an auditor, sometimes a translator, but certainly an interpretive communicator. When communication can’t

occur, we compare it with 'veterinary' medicine but must elicit signs and empathetically understand the response.

Elders from the earlier 20th century; late-life immigrants still fully living their original culture; the very young; the neuro-impaired, may have conceptual as well as lingual difficulty in describing sensations they never thought they would have. Our own concepts are defining and steer our diagnosis to different systems and processes; we, too, must translate to make our question understandable.

We want to know if 'dizzy' means syncopal/presyncopal, whether there were changes in heart rate or rhythm; if faint, is it worse standing and better lying down? What is the skin color, temperature, diaphoresis? Did it mean vertigo, disequilibrium, unsteady station or gait? Is there tinnitus, nystagmus, nausea? Is there headache or neck pain? A bruit? What can ECG, POCUS, CT/MRI yield?

These questions, and more, are familiar and frequent in assessing the patient's events. Astute listening, non-verbal cues, family help with dialect and whether speech is normal, translation phone lines, analogies suggested for concepts not clearly understood, are the most readily available aids. These may help you avoid the response "*You know, d-i-z-z-y!*"

303 Bad Things Come In Threes

It's your weekend shift. The patient is a 70-year-old man, brought in by his out-of-town daughter who has flown in to give 'Mom' some respite in caring for 'Dad'. Aghast at his six-months deterioration, she has brought him because she "*can't reach his primary care.*" He has had bladder control problems for some while, but his gait has considerably worsened, requires a good deal of care, and seems distracted and illogical at times.

You spend time taking careful history and reviewing medications. General exam is not remarkable. There's more than "*just a whiff*" of stale urine from his clothes. Neuro exam is symmetrical. However, he has trouble rising from the chair, has a wide-based shuffle with some forward truncal leaning, struggles to lift his feet from the floor, and takes incremental steps to 'About-Face', and return. Basic labs show no acute problems. Due to some falls, you suggest a head CT. It shows Cortical Atrophy and Ventriculomegaly.

You explain. "*I share your concerns. Dad doesn't need to be admitted today. He does need to see a good Neurologist. I say this because he has a triad of problems that may be related, but if no other explanations are found, can be treated. This triad: the gait problems (usually first and worst); the incontinence; and dementia; is called Normal Pressure Hydrocephalus. These things can be greatly improved for most people by surgery to divert the excess spinal fluid from around the brain. The problem isn't thought of often because it worsens slowly, —people think it's 'just old age' and don't want to talk about 'failings'. It has to be sorted out from other things, so we can't fix it today, but there's a good chance that his primary care and the neurologist can get him on the path to improvement.*"

Six months later, a thank-you note is waiting at work. The daughter "*was grateful for what you found and said. His doctors said it was an excellent referral. He's recovered from his shunt surgery and is so much better. His mind has cleared, his walking is back to where it was before last year, and there is less incontinence than before.*"

Smith, C. E. (2017). [Recognizing normal pressure hydrocephalus in older adults](#). *Nursing2018*, 47(9), 26-31. [PDF]

Diana Kay Coleman, MD. [“Dementia” in the emergency department: can you do anything about it?](#) *emDocs.net*. September 1st, 2016.

Williams MA, Malm J. [Diagnosis and Treatment of Idiopathic Normal Pressure Hydrocephalus](#). *Continuum (Minneap Minn)*. 2016;22(2 Dementia):579–599.
PMID: [27042909](#) PMCID: [PMC5390935](#) [PDF]
DOI:[10.1212/CON.0000000000000305](#)

304 ‘At your back door’ Sweaty & Confused

It's 11:00 a.m. The local Basic Life Support ambulance service (not permitted to give drugs other than oxygen) gives an '*at your back door*' radio call (will arrive in less than a minute) of a patient with altered mental status and who is very diaphoretic. He is able to stand and be '*steered*' in the correct direction. Your workplace is only '*a block and a half*' away from the bank in which he was found; thus, the short notice and abbreviated history.

Before the monitors are completely affixed, you have in your mind a likely diagnosis (having felt a regular pulse or heard the sounds of it from the pulse oximeter. What's your guess? You ask for an immediate glucometer reading, which at 28 mgs/dl, confirms your hunch of hypoglycemia. After correction of the blood sugar, the patient is completely recovered. You have correctly reasoned that AMS + profuse diaphoresis + a cool day, is more likely hypoglycemic in origin than cardiac (although you sort through all possibilities).

What is your principle activity to be? There are two: 1) investigating the reason for the hypoglycemia, 2) and patient education.

What happened? Took insulin; no breakfast, only ate a piece of lettuce. Why? May be a simple "I was rushed-interrupted and forgot"; might be going heavier on insulin for 'weight control' (I've got to lose a dress size before the prom). Is awareness to onset of hypoglycemic symptoms are being blunted over time, or masked by a beta-blocker?

There are no identification documents on the patient ... was he already hypoglycemic when he left the house? Was he driving? Is mandatory notification to the health department (and, through them, to the Department of Motor Vehicles) required? Was a wallet left behind at the place where he was found?

Circumstantial confirmation occurred in that his only pocket contents was a plastic cap from an insulin syringe package. A strong conversation should take place over the value of wearing Emergency Medical Identification, such as a wrist band or necklace, preferably one backed by a system of medical files, identification of the patient (unlike "drug & variety store devices" that do not identify the patient) and his contacts. As it is possible to be separated from cards, wallets, and purses, it is wise to have something that remains *on the person!*

This patient, though he may be discharged in the company of someone who can look after him, should definitely have a firm follow-up set with his primary care, preferably when you have had a talk with the primary before discharge. The patient and his companion should be strictly warned that he should not drive or do risky activities, until cleared by his primary care clinician. In less firm circumstances, one or more follow-up calls to the patient to assure that no recurrences have happened, and an appointment has been made. It would be good if a message left for the primary includes a request for a call-back to verify that the patient has been seen.

Do not omit any mandatory reporting paperwork.

305 Honey- Related Infant Botulism

Parents are now routinely cautioned to not give honey to their infants until after one year. Honey has remarkable properties and is also used medicinally. However, if the honey is contaminated with spores of *Clostridium botulinum*, and less often, *Clostridium butyricum*, or *Clostridium baratii* bacteria, the immature intestinal biome allows colonization and growth. The toxin released from the spores causes the neuromuscular paralysis in botulism. The spores have been isolated from diseased patients in several countries. The disease may occur without finding organisms or a source.

Therefore, once the disease is suspected, due to its severity and possibility of death, notification of authorities, and treatment with BabyBIG-IV® (Baby Botulism Immune Globulin, IV) begun before any laboratory confirmation is obtained. If started early enough, the BabyBIG-IV® can shorten the course, lessen its severity, and make death infrequent..

The descending paralysis may be preceded by constipation, poor feed, lethargy, hypotonia (floppy baby, initially head and neck weakness), cranial nerves, respiratory failure, paralysis of torso and extremities. Not all symptoms may occur.

Botulism is a rare disease, rarer still to be caused by ingestion of honey. The connection with honey and infants has been shown since 1976 and is an avoidable cause. To think of the disease when indicated, advances the possibility of recovery.

Consult the references for further details, protocols, ordering of globulin, additional sources, and consultation services.

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[Infant Botulism Treatment and Prevention Program](#)v (California Department of Public Health) © 2010

306 Recurrent Dislocation of Total Hip Arthroplasty

If your facility has an active Orthopaedics Department, and a population of elders and “Broken-Down Baby-Boomers”, then there are a fair number of hip replacements at large, some of which fail.

Typically, the patient flexes the leg in medial adduction or rotates the body while the surgical leg is abducted (as on a toilet seat, or car seat) dislocating the hip replacement. Conducing conditions include: surgery not fully healed; slippage or mismatch of components; change in bone length; alcoholism; morbid obesity or change of weight; spinal fusions; or previous dislocation has occurred.

Clinical examination, neurovascular checks, and basic X-rays should suffice to confirm the diagnosis which the patient will probably have already told you. Provide pain relief. Listen carefully to the patient as to the number of recurrences, if any; how much time has elapsed from this incident; what has previously been successful in reducing the hip; whether any hardware issues are known to exist (loosening, cement problems, *etc.*; any infections; and what the Orthopaedic Surgeon has said would happen on the next occasion. It may be that a revision or replacement of the THA is thought likely.

While you may be thinking that “I’ll call the Orthopaedist and support his efforts at reduction with my Procedural Sedation and Analgesia”, the patient may know that previous attempts have failed outside of the operating room. This may be so if there’s a lot of spasm, or impingement.

If the department is busy, it’s not wise to be stuck in a protracted procedure. Consider calling Anaesthesiology to provide Monitored Anaesthesia Care. This frees you, provides focused care for an older and complicated patient, and a higher level of resources such as a small dose of Neuromuscular Blocking Drug to overcome spasm, while monitoring for weakness, respiratory insufficiency, and recovery from the NMBD. Remember, too, that associated inflammatory disease in the neck may lead to airway problems or difficult intubation.

A C-Arm Fluoroscopy Unit will be useful, and you should also check for needed supplies *e.g.* a wedge abduction pillow to be on hand for the patient. Disposition may be to home, rehabilitation facility, or hospital admission, according to your consultant.

Clifford R. Wheelless, III, MD. [Dislocation of THA](#). [Wheelless’ Textbook of Orthopaedics](#). Last updated: September 14th, 2018.

Clifford R. Wheelless, III, MD. [Radiology of the Hip](#). [Wheelless’ Textbook of Orthopaedics](#). Last updated: August 5th, 2013.

307 Irreversible Pulpitis

It’s 3:00 A.M. (0300 hrs.). You’ve gotten the patients out of the ED. No Bar-Closing Fights have shown up, so you’re hoping for a little sleep before the 6:00 AM Cardiac arrives (either CHF in shock, or “I woke up, and he was dead right next to me.”) Instead, the Triage Nurse is leading a man to the ENT room, which doubles as a dental room.

The man is miserable. He’s been taking Ibuprofen and whiskey to ease a toothache for two days, and it’s not working for him now. His right lower second molar [#31 American; #47

International] is aching intensely as he holds his jaw. There is a large discolored cavity of the occlusal surface and the filling is missing. The tooth has *exquisite* 'tap tenderness'. "*Yeah, I lost the filling about 6 months ago, but it stopped bothering me. Now, it's awful!*"

Such is the characteristic account of Irreversible Pulpitis; pulpitis is the inflammation of an exposed nerve within the tooth, which progresses downward to create a periapical abscess. If pain from a stimulus of hot, cold, sweet, or percussion, persists after the stimulus is removed, this favors the distinction of irreversible.

What is needed now? Pain Relief. Antibiotic. Referral to affordable dental care.

Pain Relief: Ideally, you will have practiced dental regional blocks, and have a long-lasting agent. A short course of opioid & NSAID may be needed only until first available dentist visit.

Antibiotic: Evidence for use of oral antibiotics is low. Standard of care is removal of the pulp from the effected tooth. ^{Cochrane}

Referral: Maintain an up to date list of local Dental Schools, local Dental Societies, Municipal Clinics, Outreach programs, that offer minimal cost care. Homeless shelters may have a list. This problem would not have arisen if the patient could have afforded care earlier.

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308 Ludwig's Angina & AFOI, Awake Trach, Retrograde Intubation

Ludwig's Angina is a rapidly progressing life-threatening usually odontogenic infection that spreads between tissues causing massive brawny edema of the floor of the mouth, submandibular and submental spaces which elevate and retropulse the tongue towards the roof of the mouth and towards the airway, the swelling also tracks into the spaces of the neck, swelling pharyngeal and pre-tracheal tissues. Extension can occur even into the mediastinum. Airway closure can occur within minutes during observation. Before the antibiotic era, the fatality rate was >50%.

The name "angina" harks back to the original meaning of the word as an intense strangling and smothering sensation.

Recognition of advancing Ludwig's Angina in a patient should put alarm in your soul and galvanize a full-on response from all resources available. Anesthesiology and

Otorhinolaryngology should evaluate and plan airway measures. Flexible nasendoscopy may give you an early look at the glottis to estimate ability to intubate. If the airway is threatened, (things can worsen in minutes), the choice will be between Awake Tracheotomy or Awake Flexible Endoscopic Intubation; set-up for both simultaneously.

Read the references with commitment, imprinting in your mind the appearance, anatomy, course of illness, treatment goals and methods, so that you are armed with acumen and resolution should you encounter a case. Descriptions here are space-limited. Review references and local policies.

Your consultants may want to secure the airway in the Operating Room “where we have everything.” However, do not transport without all the team and the equipment; don’t be caught alone in an elevator. Do not scan the patient without a secured airway unless all agree that it is safe, but do not send the patient to the scanner unaccompanied by a qualified airway person.

What may be surprising is the implacable density and firmness of the swollen tissues which will not give way, constrained as it is, with increasing pressure, against fascia.

Attaining Airway Control

Keep the patient upright. Give an antisialogogue early to avoid puddles of secretions. Preoxygenate and give supplemental oxygen throughout.

Maintain spontaneous breathing. Needing to ventilate an apneic patient with a precarious airway greatly complicates what must be done. Apnea, or paralysis, add flaccidity and collapsibility to the problem list. Now, there is no opposing tone to resist the swelling or to keep open the only space through which a breath manually given, or a feeble recovering breath must travel.

Emergency Front of Neck Access

If Cricothyrotomy or Tracheotomy is most likely inevitable, have the best qualified person do so first, rather than wait. Do not allow the infection to crawl over where you must cut while dithering. It is better to not cut through septic tissues.

Sedation?

Procedures can be done with verbal anesthesia and local or topical anesthesia. Awake patients can cooperate, but if need be, ‘awake’ does not necessarily mean aware: Consider Anxiolytic, dissociative, or amnestic medications. Avoid inducing unconsciousness or loss of muscular tone. Adrenergically driven muscle tone may be all that is keeping the airway open.

Plan

Have as many expert airway helpers as possible. Have a Shared Plan (Model) that everyone understands. Be multimodal. “*Burn no bridges behind you.*” Always be simultaneously prepared for “the next step” as you start the present step.

AFOI

The Standard Preferred method is “Awake” Flexible Endoscopic (fiberoptic or ‘chip on a stick’ camera type scope) to see where you’re going, ‘drive’ (guide) direction, suction, spray meds, or give oxygen, through a ‘working channel’, then slide an introducing catheter or the ETT itself

through the glottis; and be able to confirm intratracheal placement by seeing tracheal rings and carina, and sensing waveform capnography.

DL/VL?

While the inverted use of a DL laryngoscope or VL videolaryngoscope may work, it is awkward and adds its own complexities. It is more stimulating to threatened tissue. It is harder to use the nasal route which naturally aligns the approach with the glottic opening. The ability to continuously inspect, suction, spot-spray the vocal cords or spasming tissue with lidocaine, oxygenate, or even slide a guidewire through the 'working channel' makes the flexible method the champion.

Have respect for the tissues; it is easy to cause trauma. Do not 'force' your way through.

Hollow Catheter Jet Rescue

Consider a "hollow" catheter (e.g., Frova or Airway Exchange Catheter) as your bougie or introducer; that is easier to manipulate, less likely to block vision, and may be used to "jet" oxygen with a manual jet ventilator; apart from its value to 'railroad' an endotracheal tube.

Have smaller sizes of ETTs than those expected to be used. Consider an 'armored' or 'flexometallic' endotracheal tube.

Observed Tracheostomy of Intubated Patient

Once the flexible scope has traversed the airway, or a partially inserted endotracheal tube over the scope holds the cords apart, if it is decided to use the safety thus given to facilitate a percutaneous tracheotomy under more controlled conditions, the scope can *continuously observe* the tracheotomy attempt from *within the trachea* to check for position, angle, or injury.

Lower-Tech

The method of Retrograde Wire-Guided Intubation has worked, especially when the costly flexible technology is not available, it is less certain, takes longer and ought not be tried in one who is apneic, has risk, and it lacks the safety and luxury of seeing conditions as one goes. It is considered sub-standard in modern areas.

Briefly, one must puncture the cricothyroid membrane with an IV cannula or Tuohy needle into the trachea (confirmed by aspirating free air through 4 ml of 4% Lidocaine within the syringe; having done so, the lidocaine can be squirted into the trachea). The cannula, directed cephalad, is to pass a guidewire or epidural catheter until it exits the mouth or nose; or is seen in the pharynx and grasped by forceps.

Current recommendation is to pass the wire into the distal endotracheal tube and out the Murphy Eye; the wire is held taut (or clamped at the neck entry) to allow the tube to be slid down the wire past the cords into the trachea. Hang-up can occur at the arytenoid cartilages, so the bevel should be rotated 90° or 180° leftwards to pass over the bumps. Alternatively, a long catheter passed over the wire can enter the trachea and ease the passage of the tube a bit further into the proximal trachea. Once the tube is confirmed in correct position and is secure, the wire can be drawn outwards. In the past, the wire would be tied to the Murphy Eye and used to 'pull-down' the tube. This offers less control, and the wire cannot be released.

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