

A NOTE FROM THE PUBLISHER



Welcome to the *September/October* issue of FOCUS Journal. This issue contains some excellent articles by our regularly featured columnists, two of which particularly hit home for *me* - articles relating to what we all know as "bagging". The articles are by veterans John Salyer and Paul Mathews and are well worth your time. I say that they "hit home" for *me* because of a terrible experience I had about 15 years ago; an incident that I wrestle with even all these years later.

I was working the night shift at a hospital in which I used to work per diem, assigned that night, to the PACU (post anesthesia care unit) where "late-case" post-op patients were sent after 6PM to recover for the night. The unit was actually pretty busy with about 12 vents running. Most patients were on vents for the night with quick weaning going on during the shift so as to be extubated in the early morning. Around 2am, while performing routine vent checks, I found a fluke pinprick-sized hole in the inspiratory limb of a vent circuit that was causing alarms and insufficient ventilation to the patient. As a quick remedy, I decided just to change the vent circuit entirely and I proceeded to ask the nurse assigned to that patient, to "bag" for me while I changed the tubing. Having someone "bag" for me has always been a pet peeve of mine since *not* bagging during a circuit change, is, to me, a lawsuit waiting to happen. I'd seen hundreds of therapists over the years, cocky as to how fast they felt *they* could change a vent circuit, not ask for "bagging assistance". To them it was O-K to let the patient gasp room air for a moment or two, or not breathe at all for a few moments. And the loss of PEEP, after-all, would only be for a few seconds. No, this wasn't for me. Throughout my entire 35 year career I've had someone "bag" for me when changing circuits. Anyway, I asked the nurse to "bag" and she proceeded to do so. I, meanwhile, began changing the circuit. By the way, this patient was

a 54 year old woman who had just come out of the O.R. after an emergency appendectomy. She was perfectly fine otherwise and the resident, nurse and I all figured we'd have her extubated in just a few hours. To make a long story short, I happened to look up at the nurse as she was bagging and noticed that she was squeezing the manual resuscitator for all it was worth. The patient was small and, if I remember correctly, on a set tidal volume of about 700 cc's. She was squeezing the bag with both hands, while looking away and talking to her colleague a bed over, about their kids. I noticed too, that not only was she squeezing the bag to the tune of about 1500+ cc's but, was bagging at about 30 BPM. I then said to her "You really don't have to squeeze the bag that hard or even that fast. Just squeeze it about half as much; maybe every five seconds or so." I'll never forget how she answered me. "I don't need *you* to tell *me* how to bag a patient. I've been doing this for years." I then proceeded to tell her that she was probably delivering 1500+ cc's per breath and that at a rate of 30 BPM...well, you know the story. She, ignored me and continued as she was doing. Suddenly, she said to me, "Hey, what's happening here. The bag is like...jammed or something. I can't get any air into the patient. What's the matter with this bag?" as she proceeded to squeeze the bag with all her might. I quickly disconnected the bag and saw in one squeeze that the resuscitator was fine. She, meanwhile, began to suction the patient. Within seconds I also noticed that the patient's SAT had gone from 98 to 62 and that all the classic signs of a *continued on page 71*



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CIRCLE READER ACTION CARD # 3

pneumothorax were present. Again, to make a long story short, the patient coded and within a minute we had 20 people around the bed, but unable to get any air into the patient. Finally, a resident drove home a chest tube and we were able to get some air into the patient. Unfortunately, though, it was too late and we were unable, after over 75 minutes, to resuscitate the woman. The unit was stunned; more so than at a "routine" unsuccessful code. As people started drifting out, the team of 20 dwindled down to about 6 of us. The 3rd year resident on duty then said, "What the hell happened here. I just told this lady's husband that she was fine and he could talk to her in the morning. What happened?" No one answered. I didn't know *what* to say but suddenly, the nurse who had been doing the bagging, began to cry hysterically as she was ushered into the hallway by 5 of her nurse coworkers. As a result, just myself and the resident were left standing at the bedside. He then said to me "What do *you* think happened here?" I didn't know what to say. Again, I didn't want to "rat out" the nurse, but at the same time I didn't want to stay silent and just say that I didn't know when I felt I did. The resident, sensing that I was holding something back, asked me to come out into the hallway with him. When we did, we of course, ran right into the nurse and her 5 colleagues, all of whom were consoling her. Upon seeing me, the five of them all gave me a dirty look as if to say "You better not blame this on our friend".

The resident, again sensing that I was hesitating due *now* to the peer pressure of six nurses, then told me to take a walk with him down the hall. I told him I wanted my supervisor present which at that moment was the closest thing I had to asking for an attorney. My supervisor came and the three of us went into a room. I told the doctor that although I was no expert and certain-

ly couldn't say for sure what had happened, that it sure looked to me that the "pneumo" had been caused by the nurse's poor bagging technique. I told them both what had transpired and after awhile we all went back to the unit. When we walked in, the doctor asked to see the nurse (with her supervisor) and of course from that moment on, my name was mud. What bothered me much more however, was that inevitably the resident had to call the husband to tell him the news. I was standing right there when he told the husband that they had no idea what had happened but that his wife's heart had simply stopped and that they had done all they could. I shook my head with disgust but didn't say anything. The husband arrived 45 minutes later crying. Again, they reiterated to him that it was just one of those "rare things". A half-hour later I actually ran into the husband, a chaplain, and the resident who were walking the poor guy to the exit. I wanted to blurt out to him that it was "our fault" and that I would be his star witness at the malpractice trial...but I didn't. I don't know why I didn't, and I wonder to this day whether I should have. I really don't know what happened to the nurse either, but I heard that *nothing* happened to her, not even a write-up (even though *my* supervisor told *her* supervisor *my* version of the story). All I *do* know is that later, on the day shift, the head nurse of the PACU told the Director of RC that she didn't want *me* working in the PACU ever again. I never did.

Read the articles by John Salyer and Paul Mathews in this issue. After doing so you may want to discuss "bagging" not only with your own staff but with anyone who might be in the position to manually ventilate a patient via a BVM.

Regards,
Bob Miglino RRT, MPS

Sleep Is Not a Respiratory Disorder... Continued from page 58

array to use. Since one of the most effective methods for activating epileptiform activity is sleep, employing a thorough EEG montage for sleep studies on children and adults with known CNS abnormality is necessary in order to detect any EEG changes and a relationship, if any, to disordered sleep.

Data used for the staging of sleep include the combined measurement of the EEG, the electrooculogram (EOG) to record bilateral eye movements, and the electromyogram (EMG) to record facial and intercostal muscle tone. However, because of the special criteria used to define sleep states in infants younger than 6 months old and the unique EEG features for this population, an extended EEG montage is critical and should be standard. Any infant PSG montage should also include bilateral mid-temporal EEG electrodes. EEG features specific to infants, such as tracé alternant and "brushes," as well as certain epileptiform activity can provide useful information regarding the maturity of the brain and alert clinicians to potential problems in CNS activity. Additionally, certain normal features of the infant EEG, such as rudimentary sleep spindles, are better seen using an extended EEG montage that includes frontal leads.

Epileptiform activity can also make staging the sleep record difficult and accurate and conscientious clinical descriptions from technologist performing the study are critical to alert the person scoring and interpreting the study to perceived state changes. While the descriptive language used for describing EEG activity can seem confusing, there are some basic guidelines that may be useful. EEG characteristics are described in terms of frequencies, voltages and locations. Abnormal frequencies can be faster or slower

than healthy individuals of the same age and state. Voltages can be higher or lower and can further be described as continuous, intermittent or paroxysmal (activity that emerges from background with rapid onset, reaching (usually) quite high voltage and ending abruptly). Locations of epileptiform activity can be either generalized (i.e., seen in all areas) or lateralized (i.e., asymmetrical and seen on only one side) or focal (i.e., seen in a restricted area). While there are several EEG abnormalities, main findings can usually be classified as spikes, sharp waves, spike-and-wave complexes and rhythmic hypersynchronous activity. One common sleep stage-related finding is that when many patients with discharges enter REM sleep the discharges are diminished in frequency and or amplitude or are eliminated altogether. For a more thorough explanation and description of abnormal EEG activity, the reference below is suggested.

When performing sleep studies, knowledge of the reasons and methodology for appropriately monitoring CNS activity is an important aspect for serving those patients who have certain unusual presentations or known EEG abnormalities. Even sleep studies on adult patients with a known seizure disorder should include a montage that will allow the clinician to more accurately visualize any epileptiform activity that may be present. Since epileptiform activity can yield symptoms associated with sleepiness, obtaining the "full picture" by employing a more thorough EEG montage to detect this activity is of vital importance. A thorough EEG montage is particularly important in the pediatric population where CNS problems may remain undiagnosed but early detection and treatment can have life-long consequences.