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In This Issue...

Notes from the Chair

Steve Sittig, RRT-NPS, C-NPT, FAARC

It's hard to believe, but the 2010 **AARC International Respiratory Congress** is just around the corner, Dec. 6–9, in Las Vegas, NV. If the Advance Program is any indication, attendees are in for

a great conference. I am happy to report there are numerous topics related to our specialty, including those pertaining to physiology, neo/peds, and obese pediatric patients in transport. I'm also pleased to note the Transport Section meeting is again on the last day of the Congress, so if you'll be at the meeting, please plan to attend.

We will likely try to once again videotape the meeting and post it on the section webpage, as we did last year in San Antonio. We felt that with the way the economy was going and the fact that so many employers were cutting travel, this was one way we could add value to your AARC and Transport Section membership. If you have not seen last year's meeting, you can still **view it** on our **webpage**. You will need to enter your AARC membership number to see all the great things the section was involved in nationwide in 2009.

We have two great articles from AARC members in this issue. In the first, Alex Brendel and Shannon Ball address interstate transport and state licensure, a very important issue for transport RTs. Alex and Shannon have some extremely promising progress to report that may be transferable to other areas of the country. In the second, RT educators Scott Hubbell and Leona Evans share the transport-related training they provide to their students, some of which is now being delivered in a ground ambulance recently donated to their program.

In addition to these articles, we also present another Transport Exam Review Topic, this time on neonatal abdominal defects, and I am putting out a call for some help to work with the Education Section to update the IV Course offered by the AARC. The big areas to update include infection control (chloraprep vs. betadine) and the use of safety catheters. I have been receiving increasing requests for this document, so this update is much needed.

As always, please feel free to **contact me** anytime with questions or concerns. Until next time, may all your transports end safely for both you and your patients.

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Updating the AARC IV Course: Your Assistance Is Needed

Steve Sittig, RRT-NPS, C-NPT, FAARC

Recently, I have been receiving increasing requests for the AARC's IV Course, but have noted that the document is in need of updating, as it was first released in 1997. Since the document was original developed by the Education Section, I contacted Education Section Chair Lynda Goodfellow, EdD, RRT, AE-C, FAARC, and we now have a plan to update the document, likely starting this fall. Lynda has asked Douglas Gardenhire, RRT, who is the director of clinical education at Georgia State University in Atlanta, to work with us on this project.

I would suggest you look over the **current document**. As you'll see, it is very thorough, but just needs updating on areas such as infection control, and newer technologies such as the vein

viewing devices and safety catheters.

As more RT departments, and especially transport programs, look to advancing practice, we need to ensure this course is current with today's practice. Having the documented training and skill to place peripheral IVs is well within the scope of practice for RTs and helps increase our utilization in critical care and transport.

Please **email me** for more information and/or to volunteer to help with this project.

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Are We Covered When We Cross State Lines?

Alex Brendel, MBA, RRT-NPS, and Shannon Ball, RRT-NPS, RPFT, AE-C,
Neonatal/Pediatric Transport Team, Carilion Clinic Children's Hospital, Roanoke, VA

It seemed like such a simple question at first: "Are we covered when we cross state lines?" As respiratory therapists on the neonatal/pediatric transport team (NPTT) at Carilion Clinic Children's Hospital, we did not know that by asking this one simple question we would be opening Pandora's box.

First a little background: Carilion Clinic Children's Hospital is located in Roanoke, VA. We are the flagship hospital for the entire southwestern part of the state. Our NPTT consists of an RN, an RRT, and an EMT/pilot. Our home territory covers over 44 counties and 13,000 square miles of Virginia, much of it in rural sections of the Blue Ridge and Appalachian Mountains. Due to our geographic location and referral patterns we also serve many areas in West Virginia and North Carolina as well. We provide neonatal/pediatric care close to home for those residents who otherwise would have to travel great distances for care in their home states.

The question of licensure came up when one of the respiratory therapists on the NPTT noticed a post discussing the issue on the Transport Section's discussion list. Heeding the advice of the author, he emailed the respiratory care boards in Virginia and the surrounding states, expecting to hear that transport teams were exempt from licensure requirements so long as they were licensed in their home state. With just a few simple keystrokes, the box had been opened.

On Monday morning we faced a few surprises and a new set of challenges. Virginia's board could not issue a position statement regarding practice outside of their state, but did require any RT entering Virginia, even temporarily, to be licensed there. Statements from West Virginia and North Carolina confirmed the same: they required anyone practicing inside their state borders to obtain a license there. In the words of Commander James A. Lovell, Jr., "Houston, we've got a problem."

Our problem was further complicated by the fact that in order to reach one of our sister facilities in Virginia, we had to take a route that traveled through a West Virginia border town for a few miles before once again reentering our home state. The board confirmed that we would need a

West Virginia license to render care while in transit through their state.

And here was yet another issue: while we frequently cross into our border states we, like many other teams, do occasionally venture out even farther than our border states. The idea of maintaining licensure for every state that we may one day possibly travel through made our collective heads spin (and not always in the same direction).

In order to dig ourselves out of this hole we started doing some research. We reached out to other transport teams in our region to find out how they handled the issue. Most were completely unaware of the problem, thinking EMS rules and regulations covered the crossing. However, after speaking with the various respiratory care boards, we realized that each state had their own interpretation of the rules and there wasn't anything official that would allow or deny the passage.

We concluded that a multi-focused approach would be best to solve the problem. We consulted our EMS division administration for help, and once again reached out to our colleagues on other teams. If they could help lobby for an exemption in their state we would return the favor here in Virginia. We also reached out to the AARC via Steve Sittig, chair of the Transport Section, and Cheryl West, the AARC's director of government affairs.

Both Steve and Cheryl were extremely informative and helpful in finding information for our proposals to the state boards. Cheryl spent several days digging up information for us and determined that, at the time, only nine states had anything in their Respiratory Care Acts accommodating interstate transports: Vermont, South Dakota, Ohio, North Dakota, New Hampshire, Minnesota, Missouri, Massachusetts, and Connecticut. Steve volunteered to work on a position statement from the AARC recommending RTs be allowed to cross state lines for up to 12 hours while on a medical transport without securing additional licensure. As new members of the AARC, we were very impressed with their help, professionalism, and commitment to the profession, and will definitely seek their input for future initiatives.

So, you may be asking, how did all this work out? We are happy to report we have made some substantial progress. Both the North Carolina and West Virginia respiratory care boards have agreed that we need to be able to transport into their state without securing an additional license. Some of the details are still being worked out, but we are very hopeful that we have a solution. We also have a meeting scheduled with Virginia's board to advocate that our state adopt a similar position.

Despite this success, however, there is still a lot of work to do. Even if all three states agree to allow passage, it would still mean there are only 12 states that have such language. So, if you find yourself in a similar situation, I would suggest that you begin by contacting your state society. From there you can contact the AARC and reach out to every team in your area for support.

We also feel that now is a good time to consider membership in the AARC's Transport Section. The $15 is well worth the help and support we received from Steve and the other members of the section. In the end it's only through collaboration that we can bring awareness to the issues facing the respiratory therapy community.

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Transport Training at NWKTC

Scott Hubbell, MHSc, RRT-NPS, C-NPT, CCT,
and Leona Evans, BSRT, RRT-NPS, RN, AE-C,
Northwest Kansas Technical College, Goodland, KS

In March of 2010, the Sherman County EMS donated an ambulance to our RT program at Northwest Kansas Technical College (NWKTC). The idea for the donation came after we did a pediatric transport simulation with the local EMS crew. It so happened that the county was getting a new ambulance and the old one was going on the auction block. When the college public relations director, Brenda McCants, heard about the simulation, she asked if the program could use it's own ambulance. It was decided that training future RTs in transport medicine would be the best utilization of the ambulance.

Even though there isn't a ground-based critical care transport service in the area, RTs are utilized when the flight based teams are grounded due to weather, so we agreed that having an ambulance would help familiarize our students with the cramped interior and the less than smooth ride.

It also fit well with another part of our program, where we're working with the local fixed-wing service on training opportunities and giving students the option of doing a clinical rotation with the flight team.

Our decision to incorporate transport simulation and transport clinicals into the program is in keeping with our mission to provide our students with state-of-the-art training despite our rural location. We have to think outside the box, and simulation plays a huge part in the teaching process. Besides typical RT training, NWKTC students are trained in vascular access and maintenance, including EZ/IO, and other modalities not normally implemented by RTs. The program has dynamic, human simulators for all age groups, which we use to train students and area professionals, and NWKTC students graduate with certification in BLS, ACLS, PALS, and NRP, all taught in house. This year, we put an iPAD in the hands of every student as well, and faculty developed an electronic charting system for the device so students can get used to that kind of documentation. The iPAD is also loaded with medical references and medical calculators that can be referred to in time of need.

One of the goals of the transport training is to solidify a permanent spot for RTs on the flight crew roster. The ambulance is helping us prepare our therapists to fill in when needed on the ground. Many transports occur in the western region of the state, and flight transports are often diverted due to weather. Feedback from local RTs indicated that knowing what to expect from a transport when they were called upon to do a ground transport of a critically ill patient would have been very beneficial to them. As this is a common need throughout the state, and since many areas

are considering a ground transport team to include RTs, we felt that we needed to be on the cutting edge and help prepare future RTs on the intricacies of both ground and air transport.

The responses we've received from students who have participated in the ground and flight transport training have been outstanding. Students feel this is a skill and opportunity they want to graduate with. As Pleasant Desch, who graduated last spring, put it, "Who better to transport a patient with an artificial airway than an RT? Once I graduate I will not hesitate to participate in transports due to fear of the unknown, as I know what to expect. In addition, even if I do not participate in a flight transport, having the opportunity to experience it gives me a better ability to anticipate the flight team needs on the ground, [and] thus [be] better able to accommodate the team and prepare the patient for a smooth and expedited transport out of the facility I work at." Several students have also expressed a desire to go into transport when they have enough experience.

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Transport Exam Review Topic: Neonatal Abdominal Anomalies

Steve Sittig, RRT-NPS, C-NPT, FAARC

In this edition of our Transport Exam Review Topic, we are going to focus on two abdominal defects seen in the neonate population. Gastroschisis occurs in approximately one in 2,500 births, and omphalocele occurs in approximately one in 5,000 births.[1] Proper recognition and treatment of these defects leads to decreased infant mortality. As transport specialists, we need to know how to care for these infants with abdominal wall defects.

Omaphalocele

Omphalocele is characterized by herniation of the bowel, liver, or other organs into the intact umbilical cord, with the tissues being covered by peritoneal membrane. Factors that have been shown to increase the risk of omphalocele include a positive family history of omphalocele or other birth defects, associated chromosomal anomalies, and history of spontaneous abortion. Fetuses with omphalocele appear to have an increased risk not only of congenital heart disease, most commonly tetralogy of Fallot, but also septal defects and possibly primary pulmonary hypertension of the newborn.[2,3] Chromosomal anomalies are reported in 1/3 of cases, with Trisomy 13, 18, and 21 being the most common.[4] Other potential congenital issues seen with omphalocele are pulmonary hypoplasia with giant omphaloceles and Beckwith-Wiedemann syndrome (macroglossia, hypoglycemia, and gigantism).[5] Other reported abnormalities include gastrointestinal malformations, genitourinary anomalies, neural tube defects, and fetal growth restriction.[1,4]

Omaphalocele post delivery care

Post delivery care should begin by ensuring the umbilical cord is clamped far enough away to avoid the potential of crushing of the intra-abdominal viscera. The use of sterile gloves is indicated for inspecting and dressing the defect. The defect should then be covered with sterile gauze soaked with warm saline. This gauze should then be wrapped in several layers of plastic wrap to minimize heat and moisture loss. A nasogastric tube should also be placed to vent any swallowed air and prevent aspiration. If airway support is indicted, bag mask ventilation should be avoided so as to not distend the abdominal contents.

Temperature maintenance and fluid infusion need to be carefully monitored due to the defect's large surface area; the child will likely require up to twice the normal fluid rates of a normal newborn. If Beckwith-Wiedemann syndrome is suspected, institution of a dextrose solution and careful monitoring of sugar levels are warranted to avoid hypoglycemia, which is characteristic of Beckwith-Wiedemann syndrome.[3,6,7]

Gastroschisis

In gastroschisis, a sac is absent, and the extruded bowel is "padded" and thickened along its length from its extended exposure to the amniotic fluid. Histologically, the bowel is usually normal. Atresia occurs in 10–15% of children with gastroschisis. Almost all infants with gastroschisis also exhibit malrotation. Increased maternal levels of *alpha fetoprotein* are suggestive of gastroschisis, as well as omphalocele.

Gastroschisis post delivery care

Post-delivery care of gastroschisis is very similar to that of the omphalocele, with the added precaution of avoiding twisting of the external loops of bowel.[8]

The use of sterile gloves is indicated for inspecting and dressing the defect. The defect should then be covered with sterile gauze soaked with warm saline. This gauze should then be wrapped in several layers of plastic wrap to minimize heat and moisture loss. A nasogastric tube should also be placed to vent any swallowed air and prevent aspiration. If airway support is indicted, bag mask ventilation should be avoided so as to not distend the abdominal contents.[3] Respiratory distress in a neonate with gastroschisis may respond to gastric decompression, although endotracheal intubation may still be needed. Temperature maintenance and fluid infusion need to be carefully monitored due to the defect's large surface area; the child will likely require up to twice the normal fluid rates of a normal newborn.[3,6,8]

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Section Connection

Recruit a new member: Know an AARC member who could benefit from section membership? Direct them to **section sign-up**. It's the easiest way to add section membership to their overall membership package.

Section Discussion List: Go to the **section website** and click on "Discussion List" to start networking with your colleagues via the AARC's new social networking site, **AARConnect**.

Bulletin Deadlines: Winter Issue: January 1; Spring Issue: April 1; Summer Issue: July 1; Fall Issue: October 1.

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