



## A Glimpse of Nursing Practice at the Oregon Poison Center

by Tonya Drayden

### Line #1 lights up and the phone rings . . .

“Hello, Oregon Poison Center. May I help you?”

A frantic mother calls the poison center nurse saying, “My baby has been poisoned. My four-year-old daughter said that she gave some medicine to the baby. It’s spilled all over the baby. I called the doctor’s office, but he hasn’t called me back yet. What should I do?”

While assessing the baby with an ingestion of children’s cough and cold medication on line #1, line #2 lights up. The nurse quickly puts line #1 on hold after giving Mom basic first aid instructions.

### On Line #2 . . .

An Emergency Medical Technician (EMT) calls from the ambulance en route to a patient found down by a family member. The family has described bottles containing Amitriptyline, INH, and aspirin near the body of a 24-year-old female. The EMT sounds excited. He verifies that they have not reached the patient location yet. The EMT is asking for information concerning these medications. The sound of the ambulance siren adds an additional layer of urgent anticipation to this call.

The poison center nurse must carefully triage each call. Responding to callers from line to line is a dynamic process. On line #1 the nurse clarified the infant’s physical and mental status within seconds. The nurse then instructed the mother to provide first aid through the process of giving the infant drinks of juice, thereby rinsing the baby’s

mouth and throat, and diluting the potential poison. Giving Mom a moment to take action, the nurse is then able to give detailed instructions to the EMT. Information related to the most likely physiologic effects of multiple medication overdoses, and anticipated assessment parameters, is needed to insure safe transport to an emergency medical facility.

As our lines continue to light up, each successive caller may have similar problems. Sometimes the call involves something drastically different.

### On line #3 . . .

A physician is calling from an ICU in a southern Oregon hospital. She is requesting medical consultation concerning the management of a Tylenol toxic patient who has been treated with n-acetyl-cysteine (NAC) for 24 hours. Laboratory results show that his liver enzymes are elevated to the 400 range. The nurse quickly conferences the doctor with the poison center toxicologist to facilitate optimal patient management.

### On line #4 . . .

A grandmother is requesting information listing safe plants for children. She will be providing baby-sitting support for her daughter-in-law in a few days.

The Oregon Poison Center (OPC), at the Oregon Health & Science University, was established by an act of the Oregon State Legislature in 1978, to provide emergency treatment information for patients experiencing a poisoning or toxic event. Our center operates 24 hours a day, 365 days per year, providing emergency treatment advice, toxicology case management and poison prevention education. The OPC currently serves individuals throughout the state of Oregon as well as Northern Nevada and the greater Alaska territories.

The Oregon Poison Center is one of 53 regional poison centers throughout the country, which have achieved certification as a regional

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poison control center by the American Association of Poison Control Centers. The OPC participates in the Centers for Disease Control (CDC) Epi-X early warning system, which provides electronic alerts of critical events occurring throughout the world. As the toxicology resource for the state, the OPC has expertise in patient management for chemical exposures, which may be involved in a terrorism event. Emergency responders, hospital providers, Hazmat teams, Oregon residents and a variety of agencies call upon us daily for assistance.

The poison specialists here at the Oregon Poison Center are a team of specially trained registered nurses. The OPC staff utilizes their professional expertise as well as an extensive collection of resources to assist in determining the appropriate treatment guidelines for poisoned patients. Emergency medicine physicians, who are also board certified in medical toxicology, provide our medical back up support.

The scenarios above are only a few examples of common calls that occur daily. The poison specialist answers the phone within the first few rings. The center does not use a telephone queue or a messaging system. Each call is answered and carefully triaged, with nurses providing immediate assistance to all callers.

When the poison specialist receives a call concerning medication or chemical exposures, verification of chemical ingredients, the timing of the exposure, and the weight of the potentially poisoned victim is needed to create a plan for continued medical management and home follow up. In the case of the infant who was exposed to cough medicine, the child experienced minimal drowsiness two hours after the unfortunate exposure. All symptoms had cleared by the four to six hour follow up call. Immediate management of the mother's call on line #1 resulted in an infant experiencing minimally toxic effects from the children's cold medication.

The patient found unconscious in the field, on line #2, is followed from their initial admission and treatment in the emergency department, their transfer to the ICU, and their subsequent discharge to a psychiatric facility.

In 2003, the poison center received over 70,000 calls. Poison center nurses safely manage 80% of all toxic exposures at home, obviating the need for referral to a health care facility. The OPC provided consultation to health care providers for more than 11,000 patients in health care facilities last year. Analgesics, particularly common non-prescription pain relievers, result in the greatest number of poisoning incidents as well as the greatest number of hospital visits.

Sixty-five percent (65%) of our calls involve pediatric exposures. Many pediatric patients require decontamination and short observation in an emergency department. More serious poisoning incidents require hospital admission for longer observation, treatment and stabilization. The most serious poisonings, and nearly all fatalities, occur in adults. Suicidal exposures and drug abuse remain the leading causes of life-threatening poisoning in Oregon, as in the rest of the United States.

Our primary goal is to provide medical management of a potential poison exposure in a timely manner. We provide care to each caller based on the following components:

1. Initial greeting and an assessment of the situation,
2. Instructions for management based on the type of poison,
3. Review of our database, department protocols, & research,
4. Development of the care plan, and
5. Follow-up evaluation with successive calls.

We rely on a combination of computer databases, department protocols, research, as well as our cumulative past experiences to guide patient management. This process is ongoing as we continue to take new calls with each successive ring in to our phone lines.

We all come from varied clinical backgrounds. My fellow coworkers are from post-partum, medical-surgical units, cardiac recovery, intensive care, and emergency department training. I came to the poison center eight years ago after more than ten years in pediatrics and nursing education.

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I was looking for continued intellectual challenge, and something intangible. I graduated from nursing school in 1984 without being aware of telemedicine. I had not heard of poison control centers, nor had I considered emergency nursing a career goal.

My knowledge grew dramatically within months of my poison center training. The field of poison control incorporates medical, chemical, and biological coordinates that effect our environment. **Anthrax** scares, **botulism** food poisoning, and **carbon** monoxide exposures, are only a few of the A, B, C's of our poison vocabulary. The where and when also adds to the excitement.

There are unique challenges when our initial calls come from the side of the road (family member with a spray of hot radiator fluid in the face and mouth), a campsite (snake bite from Eastern Oregon), or from a surgical theater in a hospital (request for reversal agent when the patient was accidentally given 10 times the usual dose of anticoagulant). One special case involved coordination of an antidote drop by the coast guard to an overdose victim who was on a freighter in the Bering Sea.

The role of the poison center nurse can be an amazing process. It is as challenging as any nursing specialty, but with a slightly altered emphasis. There is no heavy lifting. We no longer wear out the soles of our shoes. We depend on nursing process and our senses to care for our poisoned patients.

In nursing we use our sight to initially assess the patient's physical and emotional status, touch to calm and palpate a specific site of concern. We use our hearing to assess someone's level of pain or aid us in the auscultation of lung fields. We rely on our sense of smell to help us evaluate wound healing.

As poison specialists the width and breath of our nursing skills require that we use our voice in a therapeutic manner (calmly questioning the frightened poison victim). We must listen quickly and carefully (evaluating the voice quality and degree of cough for a chemical aspiration victim). Often we instruct the caller to describe what they see and smell. We can then assist the caller by

describing what poor wound healing or what an infected bite might look like. These skills are essential in determining whether a patient is stable enough for home management or may soon become unstable and need emergency medical management.

I enjoy being a certified specialist in poison information. We are a special breed of nurse. We develop relationships with our callers when they are most frightened and feel threatened by the unknown. Through our confident manner we assist them in gaining some level of calm. We then guide the caller through challenging poison treatment plans. By the end of this process we are able to make a difference. No, we are not able to witness their grateful smiles nor share warm hugs of thankful relief in payment for sharing this difficult moment in their lives. Nonetheless, the warm thanks we frequently receive are a constant reminder of how much our callers value this nursing role.



*About the author:*

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