

“That Others May Live”: Two weeks with the Joint Rescue Coordination Centre

An inside look into how the centre coordinates air and maritime search and rescue for BC and Yukon.

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A bush plane crashes in Yukon’s wilderness. A fishing boat strikes a log off British Columbia’s coast and is rapidly taking on water. A caller reports seeing several red flares in a remote area on the rugged western shores of Vancouver Island. In these and other air and sea rescue situations, the Joint Rescue Coordination Centre (JRCC) in Victoria, BC, sits atop the nexus of the fast-paced, often multi-agency response that follows. Often with limited initial information and lives on the line,

search and rescue mission coordinators at the JRCC spring into action. Depending on the circumstances, a variety of resources may be tasked to respond, ranging from civilian vessels and other nearby assets to Royal Canadian Air Force planes and helicopters as well as Canadian Coast Guard vessels.

During 2 weeks in May 2019, I was very fortunate to get an inside look at the operations of the JRCC Victoria in fulfilling its mission to coordinate air and maritime search and rescue for BC and Yukon. As an emergency medicine resident pursuing training in prehospital and transport medicine, the experience was invaluable in offering a contrast between federally mandated search and rescue services and those of the provincially administered civilian emergency medical services system in British Columbia (BC Emergency Health Services), with which I am more familiar. While there are obvious inherent differences between search and rescue and emergency medical services, there are also areas of significant overlap and the echoes of several similar challenges. It is here, in the overlap, where we can benefit from the insights gleaned in seeing each other’s worlds.

The JRCC Victoria (one of three JRCCs in Canada) is truly a joint operation. Located at Canadian Forces Base Esquimalt, Royal Canadian Air Force and Canadian Coast Guard personnel at the JRCC work together on opposite sides of a large room. The air force side of the room is staffed by a Royal Canadian Air Force air controller (an experienced pilot or air combat systems officer) who, during daytime hours, is joined by an assistant air controller. The marine side consists of two seasoned Canadian Coast Guard mariners. Despite a computer-monitor-to-person ratio of well over five to one, the room is open and designed to facilitate communication and collaboration. The marine and air search and rescue mission coordinators work 24/7 answering a variety of calls from the public, the Canadian military, the Canadian Coast Guard (and sometimes their US counterparts), RCMP, and other agencies. I even witnessed a call from the North American Aerospace Defense Command. Many are small matters—an empty boat adrift or an accidentally activated emergency locator transmitter.



Dr Obert on the open ramp of the CH-149 Cormorant as it navigates a valley on Vancouver Island.

Others can be multiday search operations involving multiple search and rescue mission coordinators and a variety of air and sea assets.

Generally, calls are categorized as either air, marine, or humanitarian. Air calls include monitoring notifications of distress communications picked up from pilots such as “mayday” and “pan-pan” calls. As well, all emergency locator transmitter signals (which could indicate a plane crash) that are picked up by satellites monitored at the Canadian Mission Control Centre and that fall with-

in JRCC Victoria’s search and rescue area are investigated by search and rescue mission coordinators. If a crash is determined to have occurred, JRCC then coordinates the search and rescue effort. Marine calls operate similar to air calls, but owing to the higher number of vessels on the water than aircraft in the sky, they are far more frequent. All incidents involving a threat to life or limb that occur in the waters contained within JRCC Victoria’s search and rescue zone are managed by marine search and rescue mission coordinators. Such incidents may include sinking vessels, persons in the water, medical emergencies occurring at sea, and any emergency position indicating radio beacon activation (the marine equivalent of an aircraft emergency locator transmitter). Finally, humanitarian calls make up an increasing number of calls and include JRCC assistance offered in situations that otherwise fall outside its federal air and maritime search and rescue mandate. Examples include assisting land-based search and rescue agencies (such as the RCMP) as well as the BC Ambulance Service to evacuate patients from more remote and difficult-to-access areas.

Whether a call technically falls to the air or marine side does not betray the teamwork necessary for the more involved calls. The level of complexity that search and rescue mission coordinators are sometimes called on to grapple with can be mind boggling. For example, in the case of a missing person in the water, a multitude of variables—including last location,

tides, currents, and wind patterns—are input into complex models to generate a search area based on predicted drift patterns. Search maps are then updated in real time to factor in continued drift, while also accounting for areas already searched. To say that the job requires a high degree of skill is an understatement.

Outside the walls of the JRCC, I also had the privilege to witness the exceptional prowess of a team of search and rescue technicians from the 442 Transport and Rescue Squad-

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ron in Comox, BC—the “pointy end of the spear” for air-based search and rescue. As part of a medical simulation exercise, I watched as the team, which had been inserted by helicopter, rushed to the scene of an incredibly realistic plane crash mock-up (complete with twisted fuselage and aircraft parts strewn about

the landscape). Multiple mock casualties, played by Canadian Forces personnel, were quickly assessed and triaged as the search and rescue technicians got to work. The sound of a circling Buffalo aircraft thundered overhead, and soon after several blaze-orange parachutes appeared across the sky bringing additional personnel to the scene. The medical care that was delivered was impressive in its scope and in the ability of personnel to adapt on the fly to the fluid and technically challenging conditions. At the conclusion of the simulation exercise, several mock patients had been stabilized and remained in the capable hands of the search and rescue technicians. In a real-life scenario, the JRCC would have already been hard at work facilitating the transfer of care to the provincial trauma system.

However, technical skills are only one part of the equation. Equally important are the softer skills, the interpersonal aptitude necessary to coordinate effectively between multiple players in an emotionally charged, fast-moving situation. The parallels to the worlds of both emergency medicine and prehospital medicine are easy to spot. Unfortunately, so too are some of the challenges. Posttraumatic stress and burn-out are ever-present issues. Recruitment and

retention difficulties further burden the existing complement of search and rescue mission coordinators who are often forced to pick up extra shifts to keep the JRCC staffed 24/7/365. Additionally, as the older, experienced search and rescue mission coordinators begin to retire, there is risk of significant institutional knowledge loss.

Securing adequate funding in an era of restraint is but one factor in addressing these issues. Among other things, the JRCC must also continue to be innovative and agile in responding to challenges. Collaboration and resource pooling with related organizations is one strategy for achieving these ends and has the potential to produce mutually beneficial outcomes. The relationship between the BC Emergency Health Services’ Emergency Physician Online Support program and the JRCC is a shining example of such a collaboration. The Emergency Physician Online Support program gives pre-hospital providers around-the-clock telephone access to a BC Emergency Health Services physician advisor for clinical decision support. BC Emergency Health Services has made the Emergency Physician Online Support service available to JRCC, as well as to Canadian Forces search and rescue technicians and Canadian Coast Guard rescue specialists. This has proven to be an invaluable resource. For example, as is the case with BC Emergency Health Services paramedics, the search and rescue technicians and rescue specialists report greatly increased confidence in their ability to provide the highest quality of patient care knowing that Emergency Physician Online Support advice is only a phone (or satellite phone) call away.

From the JRCC’s perspective, a frequent issue in recent years has been calls from cruise ships for medevacs. Given the finite air and sea assets at JRCC’s disposal, it is necessary to appropriately steward these resources for use where and when they are most needed. Thus, calls must be medically triaged, a task that at a command level is generally best handled by a physician. By bringing an Emergency Physician Online Support doctor on the line, physician-to-physician communication can occur with the cruise ship’s medical officer and, working with the search and rescue mission coordinators, a plan using resources appropriate

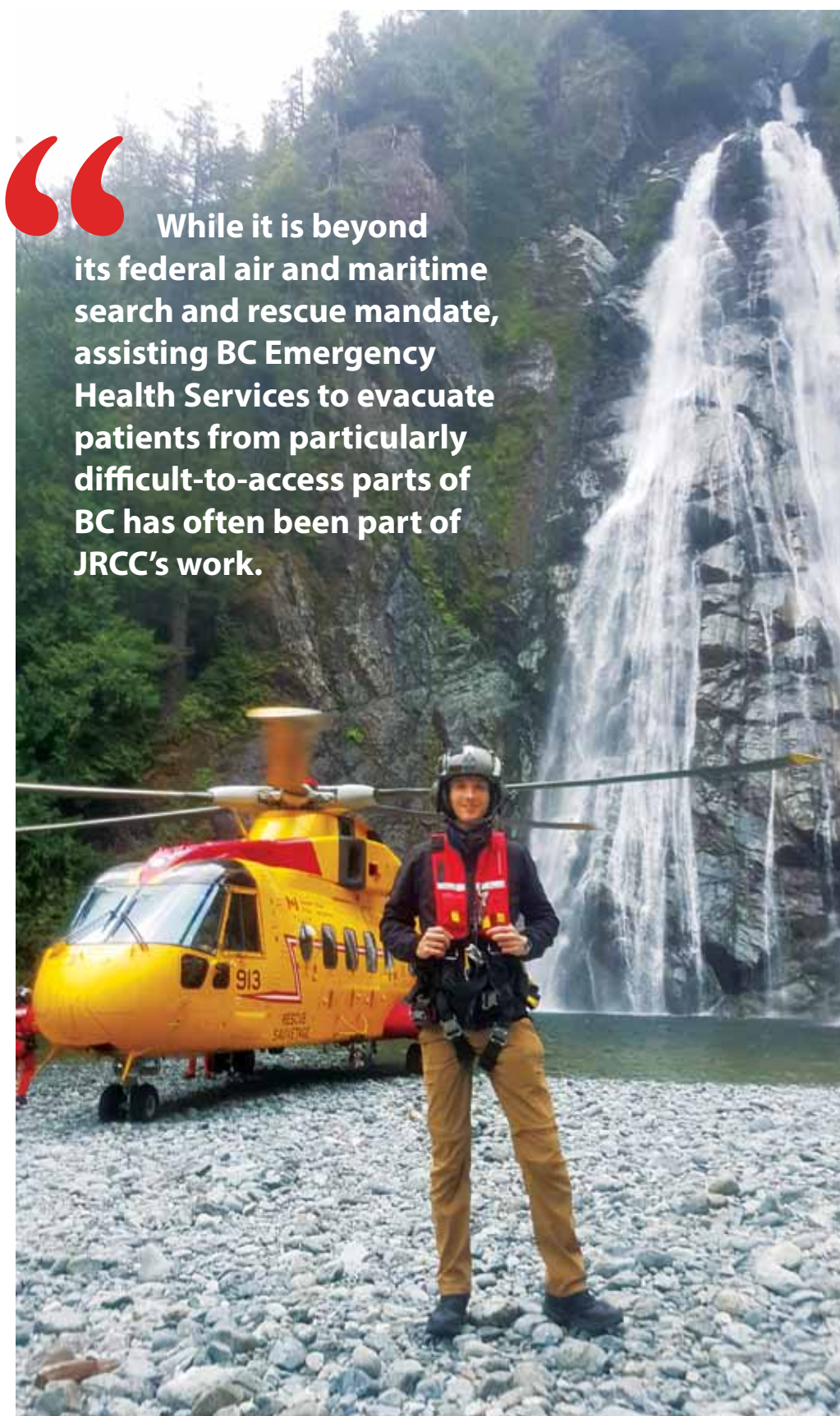
to the urgency of the medevac can be put in motion. Judging from the taped calls I listened to while observing at the JRCC, the system works exactly as designed.

It is important to note that the collaboration goes both ways. While it is beyond its federal air and maritime search and rescue mandate, assisting BC Emergency Health Services to evacuate patients from particularly difficult-to-access parts of BC has often been part of JRCC's work. Canadian Coast Guard vessels with rescue specialists aboard can reach many of the remote water-access-only communities found in BC. One would be hard pressed to find a place in BC that is beyond the combined reach of these organizations. Furthermore, patients in these remote areas can be confident that, once they are reached, they will be under the care of highly competent professionals.

Above one of the desks at the JRCC is a large Canadian flag with the motto "That Others May Live" below the words "RCAF Pararescue." Despite the many differences between federal search and rescue and the prehospital medicine world of BC Emergency Health Services, the driving motivation behind their respective efforts is the same. "That Others May Live" is part of the search and rescue technicians' pledge, and it aptly sums up this motivation. During my 2 weeks with the JRCC (and on-field excursions to 442 Squadron in Comox and two Canadian Coast Guard lifeboat stations), I saw this mentality on full display. I am extremely grateful to have been welcomed into their world. It is my hope that, through this reflection, I am able to share with the wider prehospital medicine world an understanding of the mandates, capabilities, and operations of the JRCC, Royal Canadian Air Force, and Canadian Coast Guard in delivering world-class search and rescue coverage. With this common understanding and shared ethos, collaboration between the federal air and maritime search and rescue and BC Emergency Health Services can be at its most fruitful. ■

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Dr Obert in front of the CH-149 Cormorant after a challenging confined space landing at the foot of a waterfall on Vancouver Island.