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REPORT OF THE VIRGINIA  
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**Report of the Workgroup to  
Explore the Feasibility of Using  
Donated Human Remains for  
Canine Training for Search and  
Rescue Operations in Virginia**

TO THE GENERAL ASSEMBLY OF VIRGINIA



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**Workgroup to Explore the Feasibility of Using Donated Human Remains for Canine  
Training for Search and Rescue Operations in Virginia**

**Office of the Chief Medical Examiner  
Virginia Department of Health**



## **Executive Summary**

House Bill 202 from the 2016 session of the Virginia General Assembly required the Virginia Department of Health to convene a workgroup to (1) identify and evaluate options for using human remains donated to search and rescue teams and organizations as anatomical gifts for the purpose of training dogs to find human remains during search and rescue operations and (2) establish policies and procedures to govern the process of using anatomical gifts for such purpose. The Chief Medical Examiner and the Operational Director for the Virginia State Anatomical Program (VSAP) convened The Canine Search and Rescue Operations (SAR) Workgroup to explore the feasibility of using donated human anatomical materials to train canines used in search and rescue operations in Virginia.

Members of the Workgroup concluded that working through VSAP is the most feasible way to get donated human remains to canine search and rescue teams for purposes of training the dogs for mass disasters and other search and rescue operations in Virginia. VSAP provides human remains that have been donated for teaching anatomy and surgery and for medical research to the State's medical schools, colleges, universities, and research facilities. Most importantly, VSAP is the only entity authorized to receive such donations in Virginia.

Workgroup members agreed that the Commonwealth should begin to build the capacity of its SAR cadaver dog teams to respond more effectively to mass disasters, and that it would be optimal to build a full library of scents and samples of materials that would be available for use by all Virginia SAR Teams. Canine search and rescue teams can be an important asset to individuals and families during Amber Alerts, searches for missing persons, and other mass disasters. At the same time, it is critical that the highest standards of transparency and ethics be followed with anatomical donors and their families.

While this potential new use for donated human anatomical materials is feasible through the VSAP program, there is still a great deal of work to be done. It will take much more time to create policies, procedures, and protocols for using VSAP materials for SAR cadaver dog training. Creation of a Virginia-based canine search and rescue training program will require further planning and coordination. The Workgroup offers three recommendations as significant steps in moving this process forward in Virginia:

1. The Virginia Department of Health's Office of the Chief Medical Examiner should convene a meeting of Workgroup members and representatives from medical schools and other entities currently using donated anatomic materials through the Virginia State Anatomical Program. The purpose of this meeting would be to introduce the efforts and needs of canine search and rescue groups and to explore possibilities for working together in the future.
2. The Virginia Search and Rescue Council and representatives from independent Search and Rescue groups should convene a workgroup of key stakeholders to develop policies and procedures for obtaining, transporting, storing, and disposing of donated human anatomical materials to train canines for search and rescue operations involving dead bodies. Stakeholders should include representatives from canine search and rescue groups (both independent and those operating under a Memorandum of Understanding with the Virginia Department of Emergency Management), and staff from the Virginia Department of Health's Virginia State Anatomical Program. The resulting policies and procedures must meet all Virginia statute and regulatory requirements that are applicable to the operations of the Virginia State Anatomical Program.
3. The Virginia Department of Health's State Anatomical Program should review and amend its policies, procedures, brochures, and forms to allow and to offer potential donors the choice

of donating their bodies for training exercises conducted by canine search and rescue groups through the Program.

### **Introduction**

The Chief Medical Examiner and the Operational Director for the Virginia State Anatomical Program (VSAP) convened The Canine Search and Rescue Operations (SAR) Workgroup to explore the feasibility of and capacity for using donated human anatomical materials to train canines used in search and rescue operations in Virginia. Between June and August of 2016, workgroup members met twice to discuss and deliberate on these matters. Workgroup members included representatives from the Virginia Department of Health's Office of the Chief Medical Examiner (OCME) and VSAP; the Virginia Department of Emergency Management (VDEM); and representatives from Virginia's tissue and organ donation agencies, from Virginia's canine search and rescue organizations, and from a university based forensic sciences program. A full list of persons who attended meetings is attached in Appendix A. This report describes the Workgroup's discussions, conclusions, and recommendations for further action.

### **Background**

The Canine Search and Rescue Operations Workgroup was charged with implementing House Bill 202 from the 2016 session of the Virginia General Assembly. The text of the bill reads as follows: That the Department of Health shall convene a work group of stakeholders, which shall include representatives of the Department of Health, the Department of Emergency Management, the State Anatomical Program, procurement organizations, and local search and rescue teams and organizations, to (i) identify and evaluate options for using human remains donated to search and rescue teams and organizations as anatomical gifts for the purpose of training dogs to find human remains during search and rescue operations and (ii) establish

policies and procedures to govern the process of using anatomical gifts for such purpose. In conducting its work, the work group shall respect the sensitive nature of donation for donors and families of decedents and assure that all policies and procedures reflect and incorporate this understanding. The work group shall report its activities, findings, and recommendations to the General Assembly by December 1, 2016.

## **Findings**

### **A. Overview of Virginia's State Anatomical Program**

The Workgroup reviewed Virginia's State Anatomical Program to understand current law and policy surrounding uses of donated anatomical materials in Virginia. The VSAP program is outlined in [§ 32.1-299](#) of the Code of Virginia. Currently, VSAP provides human remains that have been donated for teaching anatomy and surgery and for medical research to the State's medical schools, colleges, universities, and research facilities. VSAP is the only entity authorized to receive such donations in Virginia. Currently six medical schools, 17 colleges and universities, six community colleges, and two biomedical research facilities use VSAP materials for such purposes.

Workgroup members agreed that VSAP is a strong potential fit for assisting with training needs of Virginia's canine SAR teams. Indeed, by virtue of the fact that VSAP is the only entity authorized to receive donations of human anatomical materials in Virginia, it is the most feasible program for addressing their needs for donated training materials under current law and regulation. Any efforts to develop a canine training search and rescue program within Virginia must work through the VSAP.

Workgroup members briefly discussed VSAP's capacity to supply donated human remains for this newly proposed effort. It was determined that VSAP has an adequate supply of donors to



support training for canines for search and rescue. The number of potential donors to VSAP currently exceeds the number of donors that can be accepted into VSAP, due largely to restrictions based on current criteria related to medical and health histories. Donors previously not accepted for VSAP could be determined to be eligible and accepted, and then used for, training cadaver dogs for search and rescue operations. Health and medical criteria for acceptance would not be relevant in such cases.

To fully comprehend and address the issue of feasibility for extending the use of donated anatomical materials for use in training canine search and rescue operations, five key elements of VSAP current operating procedures, laws, policies and regulations must be addressed:

1. Canine search and rescue groups would have to pay a fee for human donations. VSAP is not supported with General Funds, but operates as a cost recovery agency. Each year, VSAP staff assesses costs per donor based on its own costs for personnel, staff, transportation, and other program expenses. VSAP's current charge for preparing a donor is \$1,462.34. VSAP charges \$1,500 per donor, and these charges would also be applied for SAR teams.
2. The cremated remains of VSAP donors are eventually returned to next of kin for final disposition. All entities using VSAP donors are required to cover the costs of cremation and disposition; SAR teams would also be responsible for absorbing these costs. These fees vary depending on amounts charged by the funeral service provider who is contracted by the SAR teams. Cremation fees in Virginia range from \$250 to \$1,000.
3. The topic and practice of human donation is fraught with both challenges and opportunities. Some donors and families would support donation for canine search and rescue training, and others would not. VSAP follows the highest ethical standards in managing its operations.

Full disclosure and transparency about the process for potential donors and for their families and friends would be critical to making this new arrangement work in Virginia.

4. Standards, policies and procedures that are developed to address any use of donated human remains must assure that donations are secure, define acceptable uses, maintain records of use, maintain donor identity, and meet standards set in Virginia law, policy, and regulation for the proper transportation, storage, and then disposition of anatomical material after use.
5. VSAP's current operations involve placement of donors as whole bodies only. To support these new efforts and uses of donated materials, VSAP must develop new standards and procedures for operation, including a way to authorize disarticulation of the donors and placement of those donated materials. Because the head and torso of a donor are identifiable, these must stay together during the process of donation. Other organs and limbs can be used and then disposed of ethically and legally. Through a strategic planning process, VSAP staff is currently working with leaders at the Virginia Department of Health to consider plans for how Virginia would transition from a whole body donation system to one that also offers disarticulated anatomical specimens.

## **B. Current Status of Cadaver Dog Training Programs for Search and Rescue Operations in Virginia**

Search and Rescue (SAR) operations were established as a standing program within the Virginia Department of Emergency Management in 1985. Authority for Virginia's SAR programs rests within [§ 44-146.18 \(G\)](#), which outlines various responsibilities including coordinating with interagency SAR partners; maintaining training registers; establishing memorandums of agreement with the Virginia Search and Rescue Council (VASARCO); providing specialized search and rescue training to professional and volunteer search and rescue

responders; maintaining an inventory of search and rescue resources available in the Commonwealth; and reporting on SAR activities. Some Virginia SAR teams operate through a Memorandum of Understanding (MOU) with VDEM, while others operate independently. However, SAR Teams are not required to have an MOU with VDEM to operate in Virginia.

**MOU SAR Teams.** There are 23 MOU SAR Teams in Virginia and seven of these have a canine component to their work. All MOU SAR Teams are members of VASARCO, which develops standards for practitioners. Importantly, VASARCO is an independent, non-profit, non-government organization.

These canine SAR teams respond by invitation to Virginia localities who request assistance. SAR teams responded to 76 requests last year, mostly from law enforcement and in response to missing persons. Some SAR teams have been asked to assist with cold cases and arson. Teams train every weekend in secluded areas of the state.

There is currently no clear or easy mechanism or process for SAR teams to get donated human materials, called “sources” or “source materials” for training. SAR teams reported a variety of materials used for training: blood, placenta, towels used in surgery, decomposition fluid, teeth, and dry bone. Materials come from family, friends, or medical facilities. Teams have forms clarifying chain of custody and approximate age of materials. When disposed, materials are handled through a regulated medical waste process.

**Independent SAR Teams.** There are four independent SAR Teams in Virginia and three of these Teams provide cadaver work services with 15 dogs. These teams also have ties with law enforcement and at times train and certify to various standards such as those found in North American Police Work Dog Association. Virginia’s Independent SAR Teams typically exceed these standards. Independent SAR teams request that all policies and regulations that are an

outgrowth of the HB202 effort be equally assessable to both MOU SAR teams and Independent SAR teams.

Like the MOU SAR teams, Independent SAR teams' source materials for training are donated and have included a finger, placenta, bone, teeth, and even a cremated head and torso. The three independent cadaver dog SAR teams trade and train on each other's materials, but the materials are limited and make comprehensive training a challenge.

**Canine Search and Rescue Training Needs.** SAR team members explained their experiences and frustrations with the current state of training and particularly source materials. A robust and comprehensive training program for cadaver dogs for search and rescue operations requires that the source materials used in the training mirror the kinds of materials to be recovered in real life search and rescue operations. This means materials from the recently deceased, decomposed materials, and skeletal remains of various ages and sizes. When cadaver dogs are trained too narrowly on donated source materials, their capacity to respond in a real SAR operation reflects this narrowness. Likewise, if cadaver dogs are trained on small and limited samples, they are unable to process and work with large samples or mass casualties.

Canine search and rescue training facilities do exist in other states and are currently used by Virginia SAR canine teams. For example, Western Carolina University provides an excellent facility for canines to train for mass fatality events. At this point in time, Virginia's canine search and rescue teams are requesting that Virginia build and support its own program. This desire and hope for a Virginia-based canine SAR training program generated the initial legislation leading to HB202 and this Workgroup.

### **C. Organ Donor and Procurement Partners.**

Representatives from organ and procurement organizations (OPO) volunteered to join the Workgroup to offer their expertise and insight into organ and tissue donation in Virginia. Staff from these OPOs talk and meet with Virginia families every day, and they understand the importance of informed consent and transparency. In the end, they voiced no concerns about the process or direction of the Workgroup. They recognized that Virginia's SAR program can be enhanced with stronger training in its cadaver dog operations, and that working through the VSAP program and its current users, donations for use in cadaver dog training are possible. At the same time, they echoed VSAP's message that processes for using donated human remains must have strong accountability, transparency, and auditing components. Donors and their families and friends must be clear on how donated human remains will be used for canine SAR operations, and have ample opportunity to opt in or out of this potential use of their loved ones' anatomical donations.

**Challenges for the Virginia Department of Emergency Management.** While generally supportive of efforts to develop canine search and rescue capabilities in Virginia, colleagues at the Virginia Department of Emergency Management expressed additional concerns. Given current budget constraints, they would struggle to support an initiative such as this. They expressed that it may be more prudent at this point to seek training opportunities for canine SAR teams' existing facilities in nearby states or to seek an existing research facility or university that is interested in studying the use of canines for search and rescue operations.

**Anatomical Donation Programs in the United States.** The Workgroup discussed VDEM's concerns and looked at models for how canines are trained for search and rescue operations in other states and how they obtain and/or use donated anatomical materials. A review of these

programs reveals that, for the great majority of states, human donations are made directly to universities, specifically to schools of medicine or departments of anatomy. Policies and procedures governing use of these donations are then established by the department or school. In Arkansas, for instance, donations are made to the College of Medicine's Department of Anatomy at the University of Arkansas for Medical Sciences. In Indiana, donors are directed to the Indiana University Anatomical Education Program, Department of Anatomy and Cell Biology. In Minnesota, donors may make their donation to the Mayo Clinic, the University of Minnesota in Minneapolis, the University of North Dakota, or the University of South Dakota. The pattern is remarkably similar in other states. Some universities, largely public, have established forensic anthropology programs or training centers where these donations are then used to train cadaver dog search and rescue teams. Both Texas State University and Western Carolina University, for instance, have established these training programs through their anthropology departments. And while these efforts may be coordinated with state and local emergency response exercises or organizations, canine search and rescue training is not a direct responsibility of these emergency management governmental agencies.

### **Conclusions and Recommendations**

Workgroup members agreed that the Commonwealth should begin to build the capacity of its SAR cadaver dog teams to respond more effectively to mass disasters, and that it would be optimal to build a full library of scents and samples of materials that would be available for use by all Virginia SAR Teams. Canine search and rescue teams can be an important asset to individuals and families during Amber Alerts, searches for missing persons, and other mass disasters.

While this potential new use for donated human anatomical materials is feasible through the VSAP program, there is still a great deal of work to be done. It will take much more time to create policies, procedures, and protocols for using VSAP materials for SAR cadaver dog training. Creation of a Virginia based canine search and rescue training program will require further planning and coordination in the following areas: building a strong oversight infrastructure to insure quality and integrity; establishing policies and procedures for obtaining, using, transporting, and returning donated anatomical materials; building a library of source materials; finding university-based facilities and partners for storing, cataloging, and circulating source materials for training; creating and offering training curricula; and establishing a funding mechanism for pulling this effort together. The Workgroup offers the following recommendations as significant steps in moving this process forward in Virginia. Recommendations are offered in a sequential order to reflect these steps.

1. First, the Virginia Department of Health's Office of the Chief Medical Examiner should convene a meeting of Workgroup members and representatives from medical schools and other entities currently using donated anatomic materials through the Virginia State Anatomical Program. The purpose of this meeting would be to introduce the efforts and needs of canine search and rescue groups and to explore possibilities for working together in the future.

Discussion: Workgroup members concluded that the most logical place to start in looking for organizational and training partners for Virginia's canine SAR teams is with the universities and other organizations currently using VSAP materials. These facilities already meet standards for managing donated human remains that are set out in Virginia, regulation, law, and policy. They understand the donor and family dynamics associated with using

human remains for science and for research, and are making these efforts work. They may be able to assist teams with receipt, storage, and disposition of donated remains. They may be interested in developing a forensic center that offers canine search and rescue training using human cadavers. This meeting would bring together potentially interested parties to discuss needs, interests, and possibilities for collaboration.

2. Second, the Virginia Search and Rescue Council and representatives from independent Search and Rescue groups should convene a workgroup of key stakeholders to develop policies and procedures for obtaining, transporting, storing, and disposing of donated human anatomical materials to train canines for search and rescue operations involving dead bodies. Stakeholders should include representatives from canine search and rescue groups (both independent and those operating under a Memorandum of Understanding with the Virginia Department of Emergency Management), and staff from the Virginia Department of Health's Virginia State Anatomical Program. The resulting policies and procedures must meet all Virginia statute and regulatory requirements that are applicable to the operations of the Virginia State Anatomical Program.

Discussion: Presuming that recommendation one results in one or more potential partnerships between canine SAR teams and a current user of VSAP donors, the next step would involve developing the specific policies, procedures and agreements whereby Virginia SAR teams would obtain, manage, use, transport, and return donated human remains.

3. The Virginia Department of Health's State Anatomical Program should review and amend its policies, procedures, brochures, and forms to allow and to offer potential donors the choice of donating their bodies for training exercises conducted by canine search and rescue groups through the Program.



Discussion: Once recommendations one and two are implemented, the VSAP program must change its own policies and procedures, including providing information about donations for potential donors and their families, to permit use of donated anatomical materials for purposes of training canines for search and rescue operations in Virginia. VSAP is currently working on a strategic plan that considers a number of challenges and opportunities for the program moving forward. It is an opportune time to consider using donated human remains for emergency preparedness and response operations in Virginia - particularly those related to mass disasters – and to adjust policies and procedures as necessary to facilitate this new use of the donations for canine training for search and rescue operations.

Appendix A: Members of the Workgroup on Using Donated Human Remains for Canine Search and Rescue Organizations

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