City of Arlington Council Agenda Bill

Item: WS #2 Attachment B

COUNCIL MEETING DATE:	
December 12, 2016	
SUBJECT:	
Acceptance of grant funds from Cascade Valley Hospital Foundation for glidescopes	
ATTACHMENTS:	
Letter announcing grant award from Cascade Valley Hospital Foundation	
DEPARTMENT OF ORIGIN	
Fire	
EXPENDITURES REQUESTED:	$28,430.00
BUDGET CATEGORY:	N/A
LEGAL REVIEW:	
DESCRIPTION:	
Staff is requesting that Council accept funds from the Cascade Valley Hospital Foundation for the purchase of two glidescopes to be placed on our medic units. A glidescope is a video laryngoscope used to assist in intubation of patients. It is the most effective and safe method currently available for patient intubations. The procurement of these scopes will enhance patient care and reduce liability to the City.	
HISTORY:	
The Fire Department submitted a grant request to the Cascade Valley Hospital Foundation in October 2016 for the glidescopes.	
ALTERNATIVES	
Do not accept the funds from the Cascade Valley Hospital Foundation.	
RECOMMENDED MOTION:	
Workshop; discussion only. At the December 19, 2016 Council meeting the proposed motion will be "I move to accept the $28,430 in grant funding from the Cascade Valley Hospital Foundation for the purchase of two glidescopes."	

CASCADE VALLEY Hospital Foundation
Non-Profit Organization
501(c) #91-1912269
Public Hospital District #3
Snohomish County

Community Connection

c/o PHD #3
875 Wesley St, Ste 240
Arlington,WA 98223

November 18, 2016

Chief Bruce Stedman

Arlington Fire Department

6231 188th Street NE

Arlington, WA 98223

Dear Chief Stedman,

CVH Foundation is delighted to award $28,430.00 to Arlington Fire Department for two glidescopes as detailed in your October 2016 grant request. We hope this state of the art equipment will save lives across the Stillaguamish Valley.

This grant is subject to the terms set forth below, and by cashing the grant check, you are indicating that you agree to its terms.

1. Funds must be used for as detailed in your grant request.
2. The funds may not be used for any purpose other than those stated above.
3. Unused funds greater than $100.00 must be returned to Cascade Valley Hospital Foundation.
4. We appreciate a report within 30 days of receipt of the funds on expenditures and/or allocation of the funds.
5. Grantee specifically agrees not to use any portion of the funds granted to participate in any political campaign on behalf of or in opposition to any candidate for public office, to make grants to individuals on a non-objective basis, or for any non-charitable or non-educational purpose.

We are grateful for your work in our community, and happy to be of service to you.

Best regards,

Heather Logan

Board Member, CVH Foundation

Date: October 22nd, 2016

From: Matt Hickman, Arlington Fire Department

To: Cascade Valley Hospital Foundation

Subject: Request for Funds

Members of the Cascade Valley Hospital Foundation,

The following is a request for funds to purchase two video laryngoscopes. The intent of this proposal is to give your members a brief overview of our department and the services we provide, describe the utility and purpose of this exciting technology, and identify the citizens in our community who stand to benefit from these funds.

Background

The Arlington Fire Department (AFD) proudly performs a multitude of life-safety functions, the largest of which is the provision of emergency medical services (EMS). We are one part of a complex county-wide EMS system comprised of dozens of agencies that provide pre-hospital care. Our system operates under a criteria-based dispatch structure designed with the goal of sending the appropriate level of care to the patient based on acuity by using BLS (Basic Life Support) and ALS (Advanced Life Support) units.

The two ALS (Paramedic) units in the City of Arlington respond from our Downtown and Smokey Point locations. They are staffed 24 hours a day, 7 days per week and are tasked with caring for our most critically-ill or injured patients. In addition to protecting the citizens of Arlington City, they are the primary ALS units for the areas of Arlington Heights, Silvana, Oso, and Darrington for a total population served of 34,079.

As a region, we are consistently recognized as innovators and leaders in the field of EMS. For example, Snohomish County ranks among the highest in the world in out-of-hospital cardiac

arrest save rates. Each of our paramedics has completed a rigorous training program that prepares them for a wide range of patient presentations. Snohomish County paramedics operate under an extremely progressive set of protocols - giving them the latitude to practice pre-hospital medicine at its highest level. This aggressive stance on the delivery of paramedicine extends to all areas of our practice, including airway management.

Traditional Airway Management in EMS

Airway management is a core component of pre-hospital medicine. While many patients require only basic interventions such as supplemental oxygen, others demand more definitive treatment. At the paramedic level of care, our providers are trained and equipped to perform several more-invasive airway procedures including the placement of a breathing tube in the trachea, or endotracheal intubation.

The process of endotracheal intubation is quite simple in theory, but requires years of training and experience to master. In a typical intubation, the paramedic uses a device called a laryngoscope to visualize the vocal cords (the opening to the trachea or windpipe). Once the cords are visualized the paramedic is then able to slide the endotracheal tube through the vocal cords and into the trachea. A small balloon is then inflated within the trachea, preventing the escape of air from the lungs. This balloon has the added benefit of preventing aspiration (the introduction of blood or vomit into the lungs). After the endotracheal tube is successfully placed the provider is able to breathe for the patient using an oxygen reservoir connected to a bag (bag valve mask) or a machine called a ventilator. Endotracheal intubation is the most preferred and definitive means of airway management available.

There are two types of endotracheal intubation; traditional (without medications) and drug assisted (with medications). For patients who are unconscious and no longer spontaneously breathing, the intubation can usually be performed without medications as the patient no longer has a gag reflex. However, there are times when a patient is no longer breathing adequately or able to "protect their airway", but is still conscious. Examples of this include severe respiratory ailment, major trauma, drug or alcohol overdose, burns, and many others. These patients can be intubated by the paramedic using a procedure called drug-assisted intubation, or DAI. Essentially, the patient is given a potent sedative followed by a paralytic which renders the patient unconscious and without a gag reflex, allowing the provider to place the endotracheal tube.

Importantly, DAI is not a procedure performed by most paramedics in the United States. As previously mentioned, the protocols in our region are particularly advanced, and DAI is a prime example.

Most intubations are performed without difficulty. However, there are times when the intubation can be complicated by issues such as obesity, blood and vomit in the mouth, trauma to the face, anatomical anomalies, or swelling from burns. This situation is referred to as a difficult airway and if managed incorrectly can lead to rapid deterioration of the patient due to a lack of oxygen.

Currently, both types of intubations at our agency are performed using a traditional, non-video laryngoscope. Although there are several methods available to increase our chances of success when a difficult airway is encountered, there are times when the paramedic is simply unable to intubate. This reality results in a less ideal form of airway management, and can ultimately lead to a poor patient outcome. For this reason, video laryngoscopy is a much needed and crucial addition to our airway management protocol.

Management of the Difficult Airway using Video Laryngoscopy

As previously mentioned, endotracheal intubation typically requires the paramedic to visualize the vocal cords to successfully place the tube. This presents quite an issue in the setting of the difficult airway when only a traditional (non-video) laryngoscope is available and visualization is limited or non-existent. Video laryngoscopy allows the paramedic to achieve this visualization using a state-of-the-art fiber optic camera connected to a video screen. The endotracheal tube can then be placed by watching the tube pass through the cords on the screen.

Video laryngoscopy has quickly become the standard of care for airway management in most healthcare settings, and is especially critical in pre-hospital EMS. Many of our patients require intubation in less than ideal settings such as limited space or light, a stark contrast to most in-hospital intubations where such variables can be controlled.

How we arrived at the Glidescope ®

The popularity of this technology in recent years has resulted in several video laryngoscope models. Each have pros and cons, but few are purpose-built for out-of-hospital environments. The Glidescope ® Ranger was chosen primarily for this reason, as it has been rigorously field tested for a wide range of applications, including extensive use by our military.

Several manufacturers were considered including Glidescope ®, Intubrite ® , McGrath ®, and King Vision ® . Our selection process included in-station demonstrations and a regional survey of EMS agencies currently using video laryngoscopy. Our paramedics were also given the chance to evaluate the performance of the Glidescope ® over a trial period of several months on multiple live intubations - many considered to be difficult airways.

One metric of success in endotracheal intubation is known as *first pass success rate*. This term describes the percentage of time the patient is intubated successfully on the first attempt, or first pass. Since its introduction, video laryngoscopy and particularly the Glidescope ® has been extensively studied for safety and efficacy. One independent study from the University of Pittsburgh showed 15% in first-pass success rates. Perhaps more notable, the Glidescope ® was almost always successful after initial attempts to intubate the patient with a traditional laryngoscope failed.

"A greater first-attempt success rate was found when using the GlideScope versus direct laryngoscopy. In addition, the GlideScope was found to be 99% successful for intubation after initial failure of direct laryngoscopy, helping to reduce the incidence of failed intubation." Ibinson, et al (2014)

This is particularly significant as it represents our most vulnerable demographic, the patient who is not able to be intubated with a traditional laryngoscope. Video laryngoscopy would allow us to successfully intubate and oxygenate these patients when all other methods have failed, which could mean the difference between life and death.

Several other factors such as equipment familiarity and continuum of care were considered as well. Cascade Valley and Providence, our two most frequent transport destinations, use Glidescope ® products. This means that emergency room physicians will be familiar with our capabilities and equipment, and in-hospital intubation opportunities will offer real-world experience our paramedics can apply in the field. The Glidescope ® is also endorsed by our department Medical Control Physician, Dr. Eric Cooper.

The cost of two Glidescope ® Ranger units with all associated accessories is $28,430, which includes initial on-site training provided by Verathon.

Summary:

The members of Arlington Fire Department are committed to providing world-class pre-hospital care to the citizens of Arlington and the Stillaguamish Valley. Meeting this high standard requires us to consistently search for new and inventive methods of improving care, and the Glidescope ® offers the greatest benefit to meet this end. Because difficult airways can happen in any patient demographic, we truly feel the addition of the Glidescope ® to our service has the potential to benefit every patient that we care for.

For a more in-depth understanding of video laryngoscopy, I would greatly appreciate the opportunity to provide your members with an in-person demonstration. This would allow them to see first-hand how this technology can save lives.

Thank you in advance for your consideration, and please let me know if I can answer any questions or provide further information.

Sincerely,

Matthew Hickman, FF/EMT-P - B Shift MSO

City of Arlington Fire Department
6231 188th Street NE Arlington, Washington 98223
Work: 360-403-3600
Cell: 425-308-1999
mhickman@arlingtonwa.gov

Top: *Traditional Laryngoscope (currently used by AFD)*
Below: *Traditional laryngoscope with endotracheal tube*

Top: *Glidescope Ranger* ***Below:*** *Profile view of Glidescope and view of vocal cords*

Verathon Bid (Verathon is the sole distributor of Glidescope ® products)

VERATHON®
New World. Real Solutions.

GlideScope Proposal

To: Arlington Fire Department
Attn: Accounts Payable 6231 188th St NE
Arlington,WA 98223-8706

Account Number	1187388
Quote Number	00007617
Created Date	9/12/2016
Expiration Date	12/31/2016

To prevent delays, please do ensure the PO matches this quotation and includes the quotation number when ordering.

Please Email or Fax Purchase Order to:
Brian Roberts ,
brian.roberts@verathon.com
Fax: (866) 262-5602

Quantity	Product	Product Code	Sales Price	Total Price
2.00	GS Titanium SU, IV Pole	0270-0822	USD 13,990.00	USD 27,980.00
1.00	GlideRite Rigid Stylet - 10 Pack	0270-0681	USD 350.00	USD 350.00

Subtotal	USD 28,330.00
Sales Price	USD 28,330.00
Shipping and Handling	USD 100.00
Grand Total	USD 28,430.00

GLIDESCOPE®
Video Laryngoscopes

www.Verathon.com
Verathon Terms and Conditions shall apply to all orders and can be found at:
http://verathon.com/download/0003-0625.pdf

If applicable, taxes will be included on your invoice, Please do not pay from quote.

Verathon Medical Corporate Headquarters
20001 North Creek Parkway
Bothell WA, 98011

TID 1666

References

1. Ibinson, J. W. (2014, November 5). Glidescope Use Improves Intubation Success Rates: An Observational Study Using Propensity Score Matching. BMC Anesthesiology, 2014 (14), 101st

2. Verathon - Video Laryngoscopy and Bladder Scanning Equipment."Verathon. Verathon, n.d. Web. 17 Oct. 2016.

3. Griesdale, Donald E., MD, David Liu, MD, James McKinney, MD, and Peter T. Choi, MD. "Glidescope® Video-laryngoscopy versus Direct Laryngoscopy for Endotracheal Intubation: A Systematic Review and Meta-analysis." *Canadian Journal of Anaesthesia* 59th ser. 10.1 (2011): n. pag. Web.