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# 2007 I.A.B.P.A. Officers

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## PRESIDENTS MESSAGE

Well, it is June, and that means the beginning of summer (at least for those of us in the Northern Hemisphere) - we look forward to everything associated with summer: picnics, hot dogs, family gatherings and amusement parks. What June means to the IABPA, however, is the annual conference is fast approaching.

As you all know by now, we will be gathering at the Radisson Resort and Spa in San Antonio, Texas, October 1 – 4, 2007. I am excited for this year's assembly since it will be my first trip to this fabulous city. It will also be the first time in a number of years that we will be meeting for a four day event. A number of individuals requested that a day of workshops be offered at the annual conference to place more emphasis on the "training" element of the meeting. Well, our host and Texas Ranger, J.D. Robertson has agreed to fulfill your request and is working hard on planning a four day conference. As always though, he needs your help. Please consider presenting some recent research or case that you were involved in. It would be great to see some new faces at the podium. It is an experience I am sure you will not regret. For those interested in a particular workshop forum, let J.D. know as well. I am certain he would love to hear your ideas and accept your assistance. Remember, it is the membership and your participation that make a conference a success. Let's make this meeting a memorable one. Information regarding the conference is consistently being updated on our website. Consider making your room reservation early to ensure availability.

Our annual business meeting is traditionally held the last day of the conference in the afternoon. Past year's attendance has been thin due to individual's making arrangements to leave early. A member's quorum is necessary for voting purposes and to carry on the organization's business. Kindly keep this in mind when making your travel plans. With that said, I am calling for agenda items for the meeting. If you have anything you wish the association to address at the business meeting, please contact Norm or myself and we will be sure to get it on the agenda.

One final reminder, all applications for membership and promotion in the IABPA are due 60 days before the annual conference - making this year's cut off date August 1<sup>st</sup>. Forms are available for downloading on our website, [www.iabpa.org](http://www.iabpa.org). It is important to remember that promotion to full member is NOT automatic and a promotion application MUST be filled out and submitted to be considered for vote at the next meeting.

I am looking forward to seeing everyone again at our gathering in San Antonio. Wishing you all a safe and happy summer.

Take care,

LeeAnn Singley  
President IAPBA

# Reflections upon Arteries and Veins – A Plea for “Spurt Patterns”

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## Introduction

When identifying spurt patterns also referred to as spray or gushing patterns, it is thought that the pressure of the arterial system produces the spurting nature of these patterns. In bloodstain pattern analysis case work “arterial spurt patterns” are occasionally characterized by the analyst but no arterial injury could be demonstrated at autopsy. In the human body and other biological life forms, there are two kinds of vessels that carry blood: arteries and veins. This article takes a closer look at both types of vessels, and their differences within the cardiovascular system. It will also provide an overview of the physiology of blood vessels and will assist the bloodstain pattern analyst in the recognition of spurt patterns.

## History

Today, the knowledge about blood circulation goes without saying, but looking back into medical history this is not particularly new. In earlier times many opinions about the heart were of a public nature.

For many centuries the heart was thought of as the center for the personality in a human being. It was the British physician, William Harvey (1578 - 1657), who studied in Padua, Italy and described the circulation of blood. He outlined his theory in 1628 in a publication entitled “*De Motu Cordis et Sanguinis*,” (“*On the Motion of the Heart and Blood*”). Although others are also said to have described the motion of blood in the body, it was Harvey who first detailed the physiology and defined the system. The valves of the veins were earlier described by Fabricius, although he was not able to connect them to their physiological significance. In 1553, Servetus described the pulmonary circulation. Cesalpinus and Realdus Columbus speculated about the blood circulation, but they did not prove their theory. It was William Harvey who first explained the circulation system.

## Anatomy

Due to their important function of blood distribution, blood vessels are found almost everywhere within the human body. The biological principles of blood vessel growth are the same within the human body as is demonstrated in numerous anatomy texts and atlases. However, there can be individual variations among different individuals. Blood vessels also adjust to different anatomical locations within the body where they are being utilized. An excellent example of this is the Circle of Willis. This is the arterial structure that is formed at the base of the brain and supplies the blood to the brain. This is a good example to demonstrate how logical and functional the biological body is built.

When the carotid arteries extend up through the neck, they divide into an internal and external carotid artery. The function of the external carotid artery is to provide blood to the outside of the skull, namely the face and muscles. The internal carotid artery extends inside the skull cavity or

cranium that contains the brain. The advantage of this system is that minor injuries to the outside vessels do not have an immediate impact on the blood supply to the brain. An example would be that there is less chance to introduce bacteria or other micro organisms directly into the blood supply to the brain.

Close to the left and right internal carotid arteries the left and right arteria vertebralia emerge within the rear of the neck through the bone channels of the spine where they are well protected. These two arteries eventually meet and form the basilar artery that provides blood to the rear of the Circle of Willis in the brain. It is interesting to see that there are three arterial sources that supply blood to the brain. The main advantage of the Circle of Willis having three arterial blood sources is that in case of a blockage or thrombus (blood clot) in one artery the blood flow to the brain can be maintained by the unaffected arteries. This is a clever mechanism of nature and the remainder of the circulatory system is also structured in a logical fashion.

Several areas of the body have parallel or bilateral structures in the arterial and venous systems. For example, the jugular vein has an external and internal vein on the left and right side of the neck. The advantage of this is that if one is injured the other is capable of functioning. It is interesting to look at the scheme of the blood vessels within the body and to consider the different demands for a vessel (arterial or venous) in the various areas of the body.

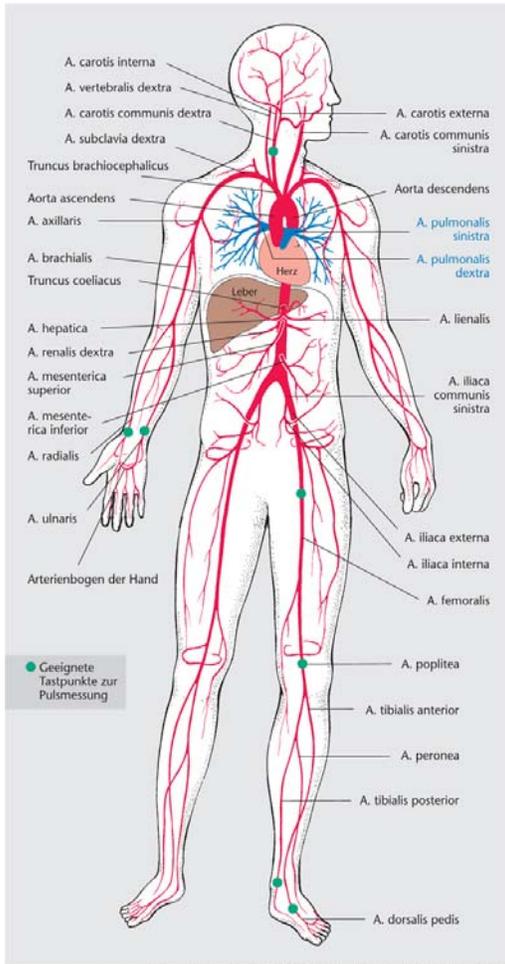
It is important for bloodstain pattern analysts to understand that the amount of bloodshed is not always correlated with the actual amount of bleeding from the injury. This is a function of the type of vessel, its location within the body and the extent of injury to the vessel. When deep vessels including the heart are injured, the extent of internal bleeding may be far more extensive than external bloodshed. For example, a completely transected carotid artery may retract into the tissue of the neck due to its elasticity and cause less external bleeding than one that is partially transected.

## **Modern Knowledge**

It is common in today's medical knowledge, that the heart is the organ that pumps and distributes the blood in the body by creating a pulse wave that pushes the blood through the vessels. We can differentiate two kinds of blood vessels: the arteries and the veins. By definition, an artery is a vessel, which leads the blood away from the heart, whereas a vein carries blood back towards the heart. If we followed the path of erythrocytes (red blood cells) in the blood flow through the cardiovascular system, we could start in the left ventricle of the heart. The oxygenated erythrocytes would pass through the mitral valve from the left atrium. After passing through the left ventricle the erythrocytes are pumped with the blood into the aorta, which is the main artery of the human body. Many smaller arteries originate from the aorta. In the upper body, the aorta makes a bow and turns downward from the heart and sends its main branches to the arms, neck and head areas. In the lower body, the aorta splits into two arteria femoralia, which are the main arteries for the pelvic area and the lower extremities. The more distant from the aorta, the smaller the diameter of the vessels. When the smallest diameter is reached, those vessels are called capillaries of the peripheral circulation.

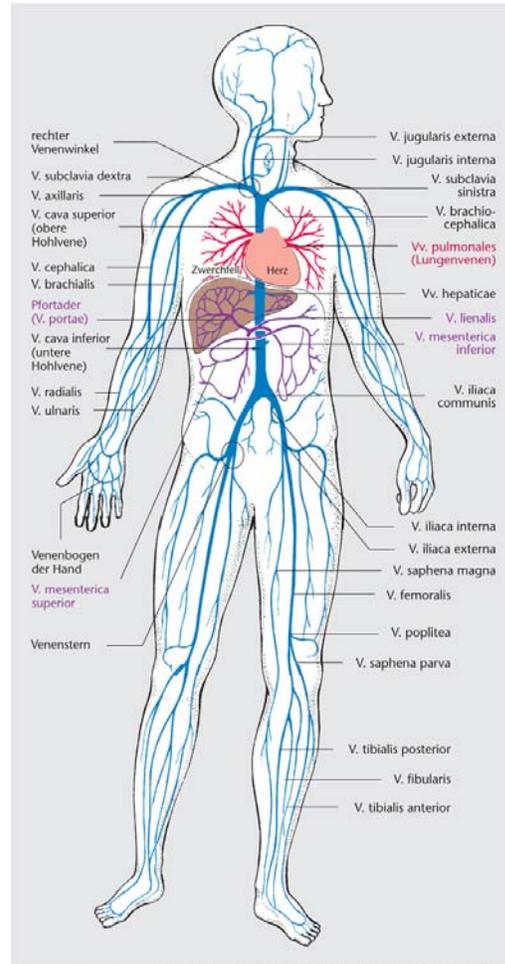
Once the blood has reached the capillaries and the oxygen is distributed into the tissues and organs, carbon dioxide is combined with the erythrocytes and the blood returns back to the heart through the venous system. Beginning in small venous capillaries in the periphery the blood flows back towards the heart and is collected in veins, which increase in diameter as they get

closer to the heart. The blood re-enters the heart through the right atrium and is transferred through the tricuspid valve into the right ventricle. The blood still has a high concentration of carbon dioxide and a low oxygen level. The right ventricle pumps the blood through the pulmonary artery into the lungs where the oxygen is replenished in the lung capillaries and the carbon dioxide is eliminated through expiration. The re-oxygenated blood is pumped back to the heart from the lungs through the pulmonary vein and enters it through the left atrium. Passing the mitral valve the blood comes back to the left ventricle and the circulation process is completed. Figures 1 and 2 show a comparison of the arterial and venous systems in the human body.



Mensch Körper Krankheit, 4. Aufl.; Biologie Anatomie Physiologie, 5. Aufl.  
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**Figure 1. The Arterial System. (Reprinted with permission)**



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**Figure 2. The Venous System. (Reprinted with permission)**

It is important to understand, that the levels of oxygen and carbon dioxide do not correlate to the terminology of the vessel. The arteries of the body are oxygen enriched, and contain very low levels of carbon dioxide. In contrast, the pulmonary arteries, which lead from the heart to the lung carry blood containing low levels of oxygen but contain high levels carbon dioxide. Conversely, the pulmonary vein carries high levels of oxygen back to the heart from the lungs. The specific names of the arteries and veins provide no information about the amount of oxygen

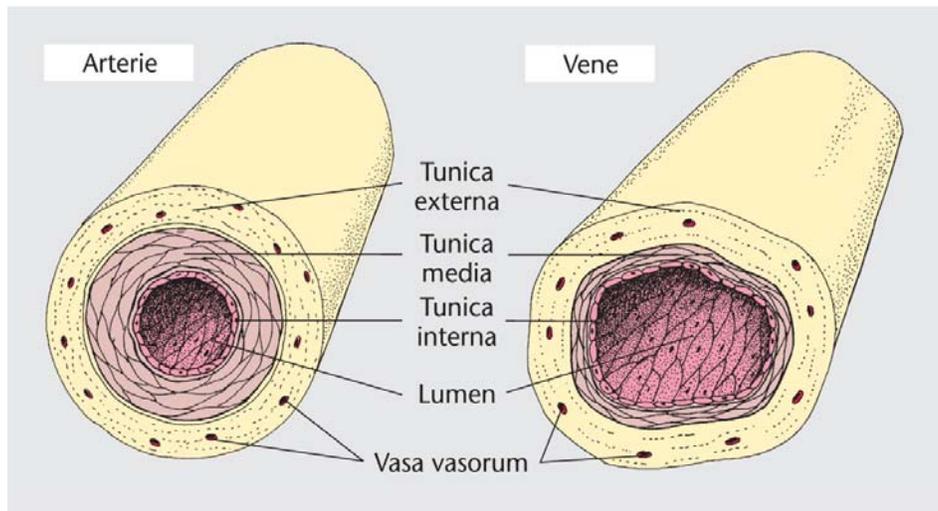
or carbon dioxide in them. In anatomical diagrams, the arteries are often colored in red, whereas veins are colored in blue. This is due to the fact that oxygenated arterial blood often looks bright red. However, this is not an absolute. The color of blood depends on many different factors. These include the oxygen level in the blood, the percentage of red cells (hematocrit) in the blood. In critical care units or emergency rooms it is common to withdraw arterial blood samples from patients. The present function of the lungs and the electrolytes can be easily evaluated by determining the carbon dioxide, oxygen and electrolyte levels of the blood. But often there are samples taken that are not bright red. Therefore, the color of the fresh blood is not necessarily an indicator for the differentiation between arterial and venous blood.

The body circulation is called the systemic or greater circulation, whereas the lung-heart circulation is called the lesser or pulmonary circulation. The function of the heart can be compared to the function of a pump, whereas the lung can be compared to the filters in an aquarium. In modern medicine it is possible with heart-lung machines to temporarily bypass the natural function of lung and heart for a short time ranging up to some weeks. This is important in patients who have a temporary heart failure and need time to recover from it. One of the current methods utilized is the Extracorporeal Membrane Oxygenation (ECMO). Blood is pumped outside the body through a system with a membrane that saturates the volume of blood with oxygen and exchanges the CO<sub>2</sub> with different substances before it is returned into the body. One concern is that the blood will coagulate outside the body so anticoagulants are utilized as a preventative measure. There is a higher risk for bleeding and infections due to that fact. Therefore, patients who are undergoing the ECMO process must do so in Intensive Care Units (ICU).

### **Difference in Structure between Arteries and Veins**

When we look at the anatomy of arteries and veins, we can see that there is difference in their structures. The walls of arteries are broader and thicker than the veins at the same level. Arterial walls contain smooth muscle, connective tissue and elastic fibers so as to tolerate the pressure of the blood coursing through them. The walls of veins are thinner and contain valves whereas arteries do not. Veins have less muscular structures in their walls but a higher amount of connective tissue and exhibit less elasticity since the blood flow is under reduced pressure (Figure 3). As a result, they are not able to pump blood actively. The venous valves only function in one direction: towards the heart. Once the blood has reached a higher position in the human body flowing against gravity, the valves close to prevent back flow and stasis in the extremities.

Principally it can be said that vessels are adapted to the demands of their surroundings. Due to high pressure and high blood flow in the arteries the greatest demands for arteries are on the inside and the middle layers of the vessel. This is the reason arteries often suffer due to the aging process from arteriosclerosis which affects the inner layer of the vessel structure. In contrast to that, the veins show a higher use on the outside layer because of the increased hydrostatic pressure. Therefore the outer layer of veins is better developed. It is interesting that a vein which is transplanted into the arterial system changes its wall structures which are needed to adapt in its new location. This effect occurs for example in bypass operations where a leg vein is transplanted into the arterial system of the heart.



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**Figure 3. Comparison of the cross sections of an artery and vein showing the thicker Tunica media and narrower lumen in the artery. (Reprinted with permission)**

The lower extremities provide a higher stress than the lower extremities for the venous walls in the human being due to the greater hydrostatic pressure. There are two types of veins in the legs: one system provides the backflow at the surface of the leg, and the other in the depth of the leg. Both systems are connected by the perforatorial veins. A mechanism that supports the backflow in the veins is referred to as the “muscle pump.” When moving leg muscles the blood in the nearby veins is prevented from flowing back by the anatomical proximity of muscles and veins.

In patients with varicosities, the venous system of the legs shows dysfunction. The veins are widened and the venous valves leak. This causes the surface veins to show more clearly and larger through the skin. The deeper veins often show dysfunction in thrombosis, which means that there is an acute blocking due to a thrombus or blood clot. The danger in this illness is the moving of the thrombus towards the lung and the ultimate blocking of the blood flow in the lung vessels. This can prevent the oxygen/carbon dioxide exchange of the blood. Therefore this condition can be lethal. Faulty valves in the saphenous vein in the legs are often the cause of varicose vein problems. An effective treatment is called endovenous laser ablation that shrinks and disables the offending saphenous vein. The body compensates for the disabled vein by rerouting the venous blood flow to other healthy veins which eliminates the swelling and discomfort of the patient.

Illnesses of the surface and deeper venous system can lead in the long term to a chronic venous insufficiency syndrome (Figure 4). This condition shows often changes in the skin of these areas and can lead to ulceration and serious hemorrhage. This condition was described in a non-fatal case investigated by Sparks in 2004. Because of the changes in the skin and the fragility of the damaged veins in combination with the high pressure in the lower limbs, these patients can develop active hemorrhage with minor scratches or injuries to the skin. Often these bleeding events do not cause any pain or sensation and are noticed by the individual only through the release of blood (Figure 5). Cases of fatal hemorrhage have been reported in the medical and scientific literature (Figures 6 and 7).



**Figure 4. Asymptomatic varicose veins in left leg.**



**Figure 5. Hemorrhaging varicose vein in left leg due to minor scratch.**



**Figure 6. Ulcerated varicose vein in lower leg of elderly female that resulted in fatal hemorrhage. (Courtesy of T. Paulette Sutton, Memphis, Tennessee)**



**Figure 7. Ulcerated varicose vein in lower leg of elderly female that resulted in fatal hemorrhage. (Courtesy of Todd A. Thorne, Kenosha, Wisconsin Police Dept.)**

## Why is the Diameter of the Vessel Important?

When one studies the range of diameters between the aorta and the capillaries, it is seen that the maximum range of the aortic diameter is 12.5 mm, whereas the arterial capillaries have a diameter approximately 20  $\mu\text{m}$ . In the venous system, the vena cava, the main vein in the body, has a diameter approximately 15 mm, and the diameters of the venous capillaries are approximately 30  $\mu\text{m}$ . The walls of arterial vessels are thicker in comparison to those in the venous system. The diameter of the vessel directly affects the resistance of the system. The resistance of a system with liquid flow is described by the Hagen-Poiseulle Equation as shown in figure 8.

$$R = 8 \cdot l \cdot \eta / (\pi \cdot r^4)$$

**R = Flow resistance in a tube of known length**  
**l = length of the tube**  
 **$\eta$  = viscosity of fluid in the tube**  
 **$\pi = 3,141$**   
**r = inner radius of the tube**

*Figure 8. Representation of the Hagen-Poiseulle Equation.*

The meaning of this equation is interesting. It shows that the resistance to flow is related to fourth power of the inner radius of a tube. If the inner radius is decreasing only by 16 %, the resistance is doubled.

This brings the discussion to a main function of the smaller arteries and arterioles. They contribute about 50% of the total peripheral resistance, which means, that in these vessels the blood pressure is lowered significantly. Physiologically, this makes sense. In the area of the body that absorbs the oxygen and releases the carbon dioxide, the blood pressure is lower than in the aorta and also the blood velocity is lower. This increases the time of the blood at the surfaces in the small vessels to make the transfers of oxygen and carbon dioxide.

Patients with high blood pressure often describe “flashes” when they take their medications. Some of these medications increase the diameter of the blood vessels in order to decrease the blood pressure. These patients feel a flash of warmth by having a higher blood volume passing through the smaller vessels.

On the contrary, the main function of the venous part of the system is to store volume. The veins are mainly capacitance vessels and serve as a blood reservoir. Approximately 80% of the total blood volume is stored in the veins. The blood can be released by venous vasoconstriction, which means that the veins are decreasing their diameter. If they are small, more volume is pushed into the arterial part of the cardiovascular system. This effect has a practical application when an emergency room patient has hypotension or low blood pressure. Adrenalin, a known stress hormone is administered to some patients. An effect of the adrenalin is the constriction of the vessels. This pushes blood from the venous system into the arterial system and mainly causes the small arteries and arterioles to constrict which raises the diameter and therefore the resistance. This results in the return of normal blood pressure.

## **Is there a Pulsative Flow or a Constant Flow of Blood in the Vessels?**

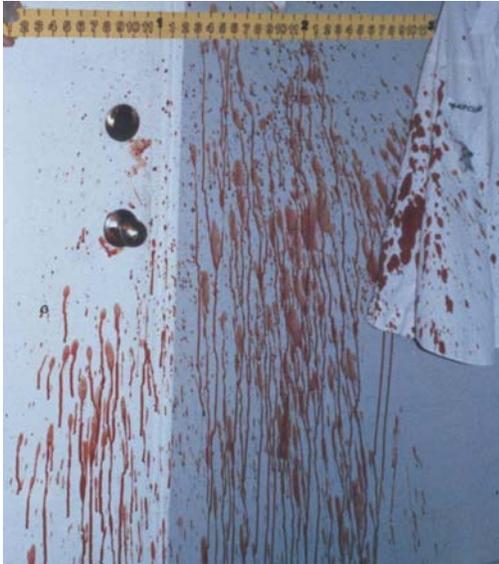
When the heart is pumping, the pulse of the heart can be felt at arteries around the body. But what is the actual flow of the blood? Due to the elastic walls of the aorta the intermittent flow generated by the heart is transformed into a nearly steady flow through the capillaries. The high systolic blood pressure causes the wall of the aorta to stretch and in the moment when there is no blood flow from the heart, the walls eject the stored volume, providing a nearly steady flow. This is called the Windkessel effect.

## **Blood Pressure**

Another difference between the arterial and the venous system lies within the pressure in both. The arterial system shows a higher pressure and is also called the high-pressure system. Conversely, the venous system is referred to as the low-pressure system. The pressure of blood in arteries is determined by the interaction of the pressure produced when the heart contracts and then the status of the dilatation of the arterioles. Blood pressure is determined by the measurement of the systolic pressure (pressure during the contraction of the heart) and the diastolic pressure (pressure when the heart is relaxed) and is expressed in millimetres of mercury (Hg). Of necessity, the systolic pressure must be higher than the diastolic pressure. A blood pressure of 115/70 is considered a healthy normal value. Systolic pressures in excess of 140 and diastolic pressures greater than 90 are considered hypertension or high blood pressure.

Arterial pressure ranges from approximately 100 mm Hg in the great arteries to 25 mm Hg in the capillaries. On the contrary, the pressure in the venous system starts between 20 mm Hg in the venoules with ranges around 2-4 mm Hg in the venae cavae which are the veins directly before the heart. There is also a pulse correlated wave in the veins which can be visualized. Although the lesser circle contains arteries, it is also counted to the low pressure system. The large veins before the heart also reach negative pressures, depending upon the actions of the heart. As a result, the veins show more connective tissue under the microscope, which is structured more loosely than the tissue of the arteries. This is to prevent vessel collapse in low pressure to secure the flow of blood. As a clinical example there is the risk for air emboli in patients who have a central venous catheter which is left open. Because of the low pressure the catheter takes in air, which can block arteries. This is also a condition that can be lethal.

It is interesting to see that there is not a large difference in pressure between the small arteries and veins. In bloodstain pattern analysis, we can recognize specific spurt patterns, on surfaces that are often produced by arterial injury. They can be fan-like and undulating or stellate in appearance on various surfaces (Figures 9 and 10).



*Figure 9. Pattern on wall and door produced by arterial spurt.*



*Figure 10. Pattern on sidewalk produced by arterial spurt.*

When we encounter cases of chronic venous insufficiency syndrome with hemorrhage, we also see a similar patterns, but more on the lower walls or surfaces such as the floors, where the hydrostatic pressure is high in the lower legs (Figures 11 and 12).



*Figure 11. Projected pattern on cabinet door produced by venous insufficiency syndrome. (Courtesy of Rex Sparks, Des Moines, Iowa)*



*Figure 12. Projected pattern on floor produced by venous insufficiency syndrome hemorrhage. (Courtesy of Rex Sparks, Des Moines, Iowa)*

## **Conclusion**

These examples indicate that the physical characteristics of spurt patterns are not unique for an arterial injury. But what makes an arterial pattern typical? Is it the size, shape and distribution or the range of a pattern that makes it an arterial mechanism? Bloodstain pattern analysts have seen “classical arterial spurt patterns”, which were determined later to be due to a venous injury. Therefore we have to ask ourselves, is it correct to call a spurt pattern “arterial?” One system stores the volume, the other one provides the regulation of pressure, both have pulse and both have pressure. Both vessel types are able to adapt, as seen in figure 13.

<b>Venous System</b>	<b>Arterial System</b>
- <b>Volume system</b>	- <b>Pressure regulating system</b>
- <b>80 % of total blood volume</b>	- <b>20% of blood volume</b>
- <b>lower blood flow velocities</b>	- <b>higher blood flow velocities</b>
- <b>pressure levels lower to negative</b>	- <b>pressure levels high to lower</b>
- <b>venous pulse</b>	- <b>pulse wave</b>
- <b>connective tissue loose</b>	- <b>connective tissue tight</b>
- <b>outer layer</b>	- <b>inner and middle layers</b>

*Figure 13. Comparison of the features of the venous and arterial systems.*

Therefore, it is correct to conclude that neither amount of blood, the size, shape and distribution, or the range of the pattern may truly differentiate between an arterial and a venous injury or leak in the system. The correct terminology should be “spurt pattern”, describing the appearance of said pattern as to its physical characteristics (size, shape and distribution). The differentiation between the systems can only be based on the finding at autopsy as to whether there has been an arterial injury. (Figure 14).



*Figure 14. Severed left carotid artery demonstrated at autopsy.*

And even then, the pathologist may not be able to determine from which vessel the blood originated. Often blood vessel injuries are combined injuries between both venous and arterial systems. Unless it is proven which system produced the pattern, the cautious use of the word arterial provides a bit more scientific precision.

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## ABSTRACTS OF RECENT BPA RELATED ARTICLES PUBLISHED IN THE SCIENTIFIC LITERATURE

Jakovich, C., STR Analysis Following Latent Blood Detection by Luminol, Fluorescein and BlueStar® Journal of Forensic Identification Vol.57, No.2, 2007 pp. 193

### *Abstract:*

Luminol and fluorescein are chemicals commonly used for presumptive tests to visualize latent blood associated with a crime scene. A new chemical, BlueStar®, is now available for the same purpose. Research has shown that Luminol and fluorescein do not interfere with STR analysis, but little research has been done to demonstrate the effect of BlueStar®, if any, on DNA analysis. In this study blood-stained carpets that had been sprayed with Luminol, fluorescein and BlueStar® were swabbed, and the swabs were submitted for STR analysis. Full profiles at the 13 core CODIS STR loci were obtained from swabs from each carpet, demonstrating that BlueStar®, like Luminol and fluorescein does not inhibit STR analysis.

Sauvageau, Anny, MD, MSc, Schellenberg, Morgan, Racette, Stephanie, BSc, Julien, Francois, BSc. Bloodstain Pattern Analysis in a Case of Fatal Varicose Vein Rupture: American Journal of Forensic Medicine and Pathology, (28): 35-37, March 2007.

### *Abstract:*

Rupture of a varicose vein is a rare cause of sudden death. It occurs when the failure of venous valves causes an increase in venous pressure enough to provoke rupture of the blood vessel. When it does happen, the victim is often surrounded by a pool of blood and the examination of the scene can mislead the forensic team. Until now, the bloodstain patterns in these fatal cases have not been described. An examination of the bloodstain pattern in a case of fatal varicose vein rupture in an 84-year-old man is here reported.

### **New Bloodstain Pattern Analysis Publication**

Bloodstain Pattern Evidence-*Objective Approaches and Case Applications*

Author: Anita Wonder, BS, MA, MT (ASCP)

Publisher: Elsevier-Academic Press, New York, New York

Publication date: August 3, 2007

Price: 99.95

### *Description:*

In *Bloodstain Pattern Evidence-Objective Approaches and Case Applications*, the concepts introduced in the author's first book, *Blood Dynamics*, are updated and applied to provide essential answers in the resolution of actual crimes. The book is accessible to all levels of investigators regardless of academic background and allows readers to develop a fundamental understanding of the underlying scientific principles behind bloodstain evidence.

This book builds on the fundamental ideas brought about by an understanding of Non-Newtonian dynamics and illustrates through case work, the practical forensic science applications of these principles to the analysis of bloodstain patterns.

# **2007 INTERNATIONAL ASSOCIATION OF BLOODSTAIN PATTERN ANALYSTS ANNUAL TRAINING CONFERENCE**

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Jeffery Robertson, Chairman  
8806 Broadway, San Antonio, TX 78217  
Telephone: 210-832-9447  
Fax: 210-832-9495  
E-mail: Jeffery.robertson@txdps.tx.us

Norman Reeves  
Telephone: 520-760-6620  
Fax: 520-760-5590  
E-mail: Norman@bloody1.com

On-site registration will begin at 6:00 PM on September 30th, 2007 at the Radisson Hill Country Resort

Flight number, date, time of arrival if known: \_\_\_\_\_

## CALL FOR PRESENTATIONS

If you have a paper to present during the 2007 Annual Meeting of IABPA please contact the Conference Chairman, Jeffery Robertson, and provide the information below. Either send a fax to him at: (210) 932-9495 or send it as an attachment to an e-mail to him at: [jeffery.robertson@txdps.state.tx.us](mailto:jeffery.robertson@txdps.state.tx.us) . You can also mail it to:

8806 Broadway San Antonio, Texas 78217

Research papers are of primary interest, however, case reports and miscellaneous material is still most welcome. There are only so many hours available so do not wait until it is too late to be put on the program before sending your information.

### IABPA 2007 SPEAKER INFORMATION

**Name:** \_\_\_\_\_

**Affiliation:** \_\_\_\_\_

**Address:** \_\_\_\_\_

**Title:** \_\_\_\_\_

Please submit A) an abstract of your paper (suitable for inclusion in the conference notebook), B) the time you will require (up to 45 minutes), and C) a short biography, with a digital photograph (again, suitable for inclusion in the conference notebook) by August 31<sup>st</sup>, 2007. If there is more than one author, clearly identify which one will be the presenter.

**What equipment will you require?**

**PowerPoint Projector**

**Laptop Computer**

**35 mm Slide Projector**

**Empty 35 mm Carousel Magazine(s)**

**Overhead Projector**

**VHS Tape Player and Large TV Monitor**

**Other:** \_\_\_\_\_

**It is expected that those who require a laser pointer will bring their own but we will also have a backup available.**

# **The Second European IABPA Region V Training Conference 2008 Zurich, Switzerland**

**Wednesday 2 July – Friday 4 July 2008**  
(pre-registration/welcome drink 1<sup>st</sup> July 2008)

## **Journey to Zurich**

By plane to Zurich Airport (International/European flights)  
EuroAirport Basel (European flights)

From Zurich Airport there is a train to Zurich Hardbrücke → [www.zvv.ch](http://www.zvv.ch) (Visitors/english)

## **Conference hall**

Novotel Zurich City-West

(Hotel reservation form → website conference link available from 1<sup>st</sup> February 2007)

## **Conference cost (estimate)**

Paid by 31 December 2007: CHF 325 / €200 / \$ 250 (incl.coffee break/lunch)

Paid after 31 December 2007: CHF 360 / €225 / \$ 280

On-site registration: CHF 400 / €250 / \$ 310

## **Accommodation (estimate)**

NOVOTEL\*\*\*\*\* (special price CHF 170 / €105 / \$ 132, double room, excl. breakfast)  
([www.accorhotels.com](http://www.accorhotels.com) – hotelcode: 2731)

IBIS\*\* (CHF 140 / €86 / \$ 108, double room, excl. breakfast)  
([www.accorhotels.com](http://www.accorhotels.com) – hotelcode: 2942)

ETAP\* (CHF 85 / €52 / \$ 65, single room, excl. breakfast;  
1-2 addit. person(s) plus CHF 10 / €6 / \$ 8)  
([www.accorhotels.com](http://www.accorhotels.com) – hotelcode: 3184)

**We invite Speakers to contribute a presentation. Speakers who are  
interested please contact:**

[silke.brodbeck@gmail.com](mailto:silke.brodbeck@gmail.com)

**For further information please contact:**

[www.wissenschaftlicher-dienst.ch](http://www.wissenschaftlicher-dienst.ch)

or

[sabine.hess@stp.stzh.ch](mailto:sabine.hess@stp.stzh.ch)

[andreas.schweizer@stp.stzh.ch](mailto:andreas.schweizer@stp.stzh.ch)

# IABPA NEWSLETTER ARTICLE SUBMISSION GUIDELINES

## ARTICLE TYPES

**Research Paper:** Detailed discussion of research in bloodstain pattern analysis or related subject areas explaining hypothesis, scientific method, results and conclusions.

**Technical Article:** A step-by-step discussion of a new technology or new uses of an existing technology in bloodstain pattern analysis or related areas, explaining analytical procedures, materials, methods, instrumentation, results, and conclusions.

**Case Reports:** Discussion of interesting bloodstain pattern analysis cases.

**Historical Article:** Discussion of bloodstain pattern analysis history.

**Book Review:** Summary and analysis of bloodstain pattern analysis books or publications.

**Letter to the Editor:** Brief communication discussing new research, technology, or previously published papers.

## ARTICLE SUBMISSION GUIDELINES

1. Manuscripts must be written in clear and concise language.
2. The manuscript must be written in a logical, organized manner, progressing from a statement of purpose through procedures, ending in a discussion of results, conclusions, and implications on bloodstain pattern analysis.
3. All articles must be original material, no previously published articles will be considered for publication.
4. All article submissions must contain proper reference citations identifying the author, article title, and publication specifics.
5. References to instrumentation and specific products should identify the manufacturer of the item.
6. The title of the article should be concise and identify the authors by name and affiliation.
7. Figures, charts, photographs, graphs, tables, and diagrams should be suitable for publication at the time of article submission and should be submitted separate from the manuscript.
8. The format for the NEWS is Microsoft Word with Times/New Roman font, size 12.
9. Article submission may be done by e-mail (attached document) or mailed CD. If submission is by mail, please provide a clean copy of the article and associated figures, charts, photographs, graphs, tables, and diagrams.
10. A reasonable number of color images *may* be used in the articles at the discretion of the editor.

## **PEER REVIEW GUIDELINES**

All articles will be peer reviewed by the editor and a minimum of two associate editors.

1. If the article submitted is acceptable without changes, the editors should not feel compelled to make corrections if they are not necessary.
2. If the article submitted is acceptable with changes, the editors will make constructive comments on how to improve the article and associated figures, charts, photographs, graphs, tables, and diagrams. They will consult with the author either individually or by a single spokesperson for the group, requesting clarification and/or suggesting additional research in a follow up article.
3. The article, associated figures, charts, photographs, graphs, tables, diagrams, and editor comments will be returned to the author(s) for revision and re-submission for the purpose of publishing in the IABPA News.
4. All articles and associated figures, charts, photographs, graphs, tables, and diagrams submitted to the IABPA for publication consideration rightfully become the property of the IABPA and remain the property of the IABPA, unless the IABPA declines to publish the article. Authors should be aware that any claims to a copyright are waived by their submission for publication if their article is published.
5. Authors assume total responsibility for the content and accuracy of their submissions.

## **CASE REPORT GUIDELINES**

1. Cases that are presently before the Courts or under appeal will not be accepted for publication.
2. Authors wishing to use the Newsletter to solicit assistance from the IABPA membership, with respect to unsolved cases having unidentified stain patterns or technical questions, must contact the editor to determine the appropriate format for submission.

## **BOOK REVIEW GUIDELINES**

1. The editor will ask an associate editor or another IABPA member to review a new book and/or publication, which relate to bloodstain pattern interpretation. The review is meant to inform the membership about the new publication. It is important that the IABPA membership be made aware of the literature published in this field and whether or not the information is accurate.

## **LETTERS TO THE EDITOR**

1. Letters to the Editor concerning articles published in the IABPA NEWS or any other news media, i.e. scientific journals etc., containing slanderous comments, however slight, will not be accepted. The editor will consult with the associate editors and decide whether or not to publish a submitted letter.

## Organizational Notices

### Moving Soon?

All changes of mailing address need to be supplied to our Secretary Norman Reeves. Each quarter Norman forwards completed address labels for those who are members. Do not send change of address information to the NEWS Editor. E-mail your new address to Norman Reeves at:

**norman@bloody1.com**  
Norman Reeves  
I.A.B.P.A.  
12139 E. Makohoh Trail  
Tucson, Arizona 85749-8179  
Fax: 520-760-5590

### Membership Applications / Request for Promotion

Applications for membership as well as for promotion are available on the IABPA website:  
IABPA Website: <http://www.iabpa.org>

**The fees for application of membership and yearly dues are \$40.00 US each. If you have not received a dues invoice for 2007 please contact Norman Reeves.**

**Note: Apparently, non US credit cards are charging a fee above and beyond the 40.00 membership/application fee. Your credit card is charged only 40.00 US by the IABPA. Any additional fees are imposed by the credit card companies.**

### EMPLOYMENT OPPORTUNITY

MPRI has a short term employment opportunity for 1-2 qualified bloodstain pattern analysts in Bogotá, Columbia to instruct bloodstain pattern analysis to the forensic system at DAS, Dijin, Legal Medicine and Fiscalia. Approximately 3-5 students from each agency will comprise the class. For further information contact:

Robert Heckman  
Director of Law Enforcement Training  
MPRI (an L-Communications Company)  
11 Canal Center Plaza  
Alexandria, VA 22314  
Tel: 703-838-5495 or 703-836-1086  
E-Mail: [robert.heckman@L-3com.com](mailto:robert.heckman@L-3com.com)

# Training Opportunities

**June 11-15, 2007**

**Basic Bloodstain Pattern Analysis Course  
Elmira College  
Elmira, New York**

Contact: Paul Erwin Kish  
Forensic Consultant and Associates  
P.O. Box 814  
Corning, New York 14830  
Tel: 607-962-8092  
E-mail: [paulkish@stny.rr.com](mailto:paulkish@stny.rr.com)

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**June 18-22, 2007**

**Bloodstain Evidence Institute  
Parma, Italy  
Hosted by the Italian Carabinieri**

Instructors:  
Herbert Leon MacDonell  
T. Paulette Sutton  
Contact: Bloodstain Evidence Institute  
P.O. Box 1111  
Corning, New York 14830  
Tel: 607-962-6581  
Fax: 607-936-6936 E-mail:  
[forensiclab@stny.rr.com](mailto:forensiclab@stny.rr.com)

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**July 9-13, 2007**

**Advanced Bloodstain Analysis  
Oakland, California**

Instructor: Tom Bevel  
Contact: Eric Collins  
Tel: 925-335-1600  
E-mail: [ecoll@so.eccounty.us](mailto:ecoll@so.eccounty.us)

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**July 22-28, 2007**

**The International Association for  
Identification 92<sup>nd</sup> International  
Educational Conference  
San Diego, California**

Contact: IAI Conference  
408 Calloway Avenue  
Sherwood, Arizona  
72120  
E-mail: [www.theiai.org](http://www.theiai.org)

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**July 30-August 3, 2007**

**Basic Bloodstain Pattern Analysis  
Anchorage, Alaska**

Instructor: Tom Bevel  
2115 Westwood Drive  
Norman, Oklahoma 73069  
Tel: 405-447-4469  
Fax: 405-447-4481  
E-mail: [tbevel1@cox.net](mailto:tbevel1@cox.net)

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**August 20-24, 2007**

**Advanced Bloodstain Pattern Analysis  
Lakewood, Colorado**

Instructor: Tom Bevel  
Contact: Sheri Shimamoto  
E-mail: [sheshi@lakewoodco.org](mailto:sheshi@lakewoodco.org)

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**September 10-14, 2007  
Crime Scene Reconstruction I  
Conroe, Texas**

Instructors: Tom Bevel and Ross Gardner  
Contact: Damien Hall  
Tel: 936-538-3409  
E-mail: [damonhall@mctx.org](mailto:damonhall@mctx.org)

**September 24-28, 2007**  
**Bloodstain Evidence Institute**  
**Corning, New York**

Contact: Professor Herbert Leon MacDonell  
Director  
P.O. Box 1111  
Corning, New York 14830  
Tel: 607-962-6581  
Fax: 607-936-6936 E-mail:  
[forensiclab@stny.rr.com](mailto:forensiclab@stny.rr.com)

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**October 22-26, 2007**

**Bloodstain Pattern Recognition Course**  
**Northwest Bloodstain Pattern Association**  
**Edmonton, Alberta, Canada**

Contact: S/Sgt. Jon Forsythe, RCMP  
E-mail: [jon.forsythe@rcmp-grc.gc.ca](mailto:jon.forsythe@rcmp-grc.gc.ca)  
Tel: 780-451-7471

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**December 10-14, 2007**  
**Basic Bloodstain Pattern Analysis**  
**Workshop**  
**Metropolitan Police Institute**  
**Miami, Florida**

Instructor: Toby Wolson, M.S.  
Miami-Dade Police Department  
Crime Laboratory Bureau  
Forensic Biology Section  
9105 N.W. 25<sup>th</sup> Street  
Miami, Florida 33172  
Tel: 305-471-3041  
Fax: 305-471-2052  
E-mail: [Twolson@mdpd.com](mailto:Twolson@mdpd.com)

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*Training Announcements for the  
September issue of the 2007 IABPA News  
must be received before August 15, 2007*

## Editor's Corner

In this issue I have included information for a bloodstain pattern analysis teaching opportunity in Bogotá, Columbia for those members that may be interested. I would appreciate input from the membership as to the idea of including employment (teaching or job) opportunities in a regular column similar to the traditional training opportunities section that is part of our Newsletter. This type of information has been part of the American Academy of Forensic Sciences publication, Academy News for many years.

The International Association for Identification Educational Conference being held in San Diego, California, July 22-28 offers several interesting papers and workshops on bloodstain pattern analysis. Contact information is listed in Training Opportunities. I will include the abstracts of papers presented at this conference in the September issue of the NEWS. Also, while on the subject of presenting papers, I would ask that those individuals presenting papers at the 2007 IABPA Conference in San Antonio, Texas be sure to include an electronic version of their abstract to Conference Chairman, Jeffrey Robinson for inclusion in the program binder. I will obtain a copy and print the conference presentations in the December issue of the NEWS.

Stuart H. James  
Editor, IABPA NEWS  
E-mail: jamesforen@aol.com



## Past Presidents of the IABPA

<b>V. Thomas Bevel</b>	<b>1983-1984</b>
<b>Charles Edel</b>	<b>1985-1987</b>
<b>Warren R. Darby</b>	<b>1988</b>
<b>Rod D. Englert</b>	<b>1989-1990</b>
<b>Edward Podworny</b>	<b>1991-1992</b>
<b>Tom J. Griffin</b>	<b>1993-1994</b>
<b>Toby L. Wolson, M.S.</b>	<b>1995-1996</b>
<b>Daniel V. Christman</b>	<b>1997-1998</b>
<b>Phyllis T. Rollan</b>	<b>1999-2000</b>
<b>Daniel Rahn</b>	<b>2001-2002</b>
<b>Bill Basso</b>	<b>2002-2006</b>

## Associate Editors of the IABPA News

**L. Allyn DiMeo**  
**Barton P. Epstein**  
**Paul E. Kish**  
**Jon J. Nordby**  
**Alexei Pace**  
**Joseph Slemko**  
**Robert P. Spalding**  
**T. Paulette Sutton**  
**Todd A. Thorne**

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