The Perfusionist

August 2013 aout Volume XXIII, Number II
Tempora mutantur nos et mutamur in illis

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Canadian Society of Clinical Perfusion

La publication officielle de la
Société Canadienne de Perfusion Clinique

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Mission Statement ❧ Rôle de la Société

The mission statement of the Canadian Society of Clinical Perfusion is to encourage and foster the development of clinical perfusion through education and certification so as to provide optimum patient care.

La mission de la société canadienne de perfusion clinique est d'encourager et de promouvoir le développement de la perfusion clinique à travers l'éducation et la certificatin, de manière à assurer des soins de qualité.

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In This Issue... Dans cette publication...

Next Deadline is **Date de tombée le**

November 8 novembre

Memorial

John Basaraba

October 6th, 1926 to April 20th, 2013

British Columbia's first perfusionist and Chief, John Basaraba, passed away April 20th, 2013. He was 86.

John started at the Vancouver General Hospital in 1955 and retired from perfusion in 1984. I had always figured that someone would have heard about his passing, and a contingent of the *old guard* would march down to the funeral hall to pay our respects. Alas, that was not to be, he slipped away without anyone from old VGH noticing; the place where he had contributed a lifetime of dedicated service.

John's legacy lives on in simple things like the *Basaraba tubing holder*, still in use today. But his legacy runs deeper and much richer than that, these old open–heart gentlemen were true pioneers. John, a "tank boy" (RT) back in the '50's got his start in open–heart by making the mistake of showing some interest in the barking dogs from the animal lab. He was grabbed by anesthesiologist Bill Dodds and told to: *work this lever, keep that red and by all means watch that.* Perfusion equipment back in the day was handmade from a poor pencil sketch of some contraption a young–buck surgeon had seen at some far off place, like the Mayo or Cleveland Clinics. You were truly alone then, if you needed help or advice you couldn't text a colleague in Sweden, or use a cell phone to call someone in Toronto. You had to wait for a letter, which might take up to a month, and that's only if you knew who to write to. An appropriate venous saturation was the same colour of a box of *No. 7's* cigarettes, the chosen smoke of all pump boys. Alas, BC had no pump girls at that time. There were no bubble or level detectors to hold your hand, and in fact, no alarms of any kind. Tubing kits didn't spring from a box onto the pump fully setup. No, these were hand cut, mounted on metal connectors, sterilized on site, and used over and over again. Oxygenators were made of glass, metal and bottles of antifoam.

To raise funds to purchase VGH's first heart pump, a Sigma pump, an illegal bingo game was held, and later was busted by the cops. With the surgeons making a fast escape out the back door, John was left holding the bag so to speak. The next day, the surgeons Trapp, Allen, and Ashmore bailed him out before John's wife had even taken notice. That experience was kept secret from her for decades. Being a salt of the earth kinda guy, John's favourite teaching line was *"you don't really need to know that."* For the most part he was right, keep the pump turning, the blood red, and *For Christ's Sake*, don't pump any air!

Many first generation perfusionists visited VGH and John for experience. Some were Peter Fortini, who set up shop in Calgary, Denis Nugent in Regina, Marcel Roy from Winnipeg and Ted Flegel who set up BC Children's program. Others who later worked under him were Brian McCloskey from the Foothill's, Harry Mickelson at St. Paul's Hospital, and Arnold Benak and Pierre Laboisiere both in Seattle. Many an eastern sales rep ventured out to the *wet* coast to see John and ply their wares. The ones of European decent fared better than some hardcore Torontonians. Several times John saw the latter coming, and he would hide behind the pump room door. Reps eventually found out about this, and lingered just a bit longer, to make their point.

When John retired, over 300 staff, dignitaries and even patients showed up at his rock star type retirement farewell dinner. This was a real credit to the man and what he achieved. We still have some memorabilia of John's; the old Sigma pump, first patient open heart records, disc oxygenators, old photos, and the like. I think these things occasionally remind us to look back to see where we've been, and to appreciate where we are going. The footprint John left is forever imprinted on BC's, and Canada's, open heart landscape.

John spent his retirement years travelling with his wife of 64 years, Yvette, who predeceased him by just two months. He is survived by his son, three daughters, ten grandchildren and three great grand children.

Rest in peace John,
David Nash
Supervisor, Perfusionist Services,
Vancouver General Hospital

60 Years and Counting...

Dean Belway
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The great American aviator Charles Lindbergh once observed, "Life is like a landscape. You live in the midst of it but can describe it only from the vantage point of distance." If time is the measure of distance, our perspective on the present becomes clearer through the past. Lindbergh aptly named his plane the *Spirit of St. Louis*, for it is through the spirit that a thing is best understood.

May 6th 2003 marked the 60th anniversary of the first successful application of cardiopulmonary bypass (CPB). Under direct vision, Dr. John Gibbon, Jr, closed an interatrial septal defect in an 18–year-old female patient for the first time while an extracorporeal circuit maintained her cardiorespiratory function. This seminal event is widely regarded as one of the most important medical milestones of the 20th century (1, p3). It behooves us to pause at this opportune time, as Lindbergh mused, to survey once more the landscape, both to reacquaint ourselves with the circumstances attending that singular feat, and to consider anew the trade that extraordinary event founded for us.

Gibbon's success marked the dawn of a new era that revolutionized the treatment of heart disease. Complex open–heart surgery was simply not possible without CPB. Countless lives have since benefited from it. However, the path to development of a workable heart-lung machine was full of setbacks and catastrophic failures. Other than that one successful case, initial clinical experience with CPB was a series of disasters with an unacceptably high mortality rate (2). Years later, reviewing all of the open–heart surgeries reported in the surgical literature, Walton Lillehei affirmed that between 1951 and 1955 of 18 patients reported to have had an operation using cardiopulmonary bypass there were 17 deaths and only one survivor.

It was an era in which many of Gibbon's contemporaries believed that open-heart surgery would forever be impossible. When he began his experiments, many of Gibbon's colleagues and advisors thought it was too difficult a project with little hope of success. To them, the concept of open-heart repair and development of the heart-lung machine (HLM), however attractive an idea, was ill fated. The initial failures reinforced this idea.

But Gibbon was not alone in his pursuit of an HLM that would allow for complex cardiac repair. At the University of Toronto Medical School, Dr. Mustard developed a heart-lung machine using isolated monkey lungs as the oxygenator (2). At Wayne State Medical School, Forest Dodrill and a group of engineers from General Motors developed the Dodrill–GMR heart machine. Clarence Dennis at the University of Minnesota Medical School developed a rotating disc oxygenator, and C. Walton Lillehei, also at the University of Minnesota Medical School, was developing cross circulation as a technique of CPB. Using a vertical film oxygenator and roller pump, at the Mayo Clinic John Kirklin was working on the Mayo-Gibbon heart–lung machine. They persevered in the daunting task they had set themselves, adversity and pessimism notwithstanding, until finally, ushering in the age of cardiovascular perfusion, success crowned their enterprise.

Their steadfastness and resolve ultimately yielded dividends beyond what they could have imagined. Countless lives have benefited. Their legacy is immeasurable. To us, heirs of their pioneering efforts, they bequeathed a priceless heritage. But how much do we really understand of the gifts we have been given and the model created for us? To restrict our appreciation of their bequest to their machines and technical innovations, important as those were in establishing cardiac surgery as a safe and efficacious therapy, is to miss the complementary but equally valuable virtue of their spirit. Their tenacity, fortitude, dedication and commitment, their resolve, the relentless pursuit of their passion undeterred by detraction and adversity, the strength of their character. These are among the wealth of our inheritance. To perceive the impact of their spirit, how it defines our character, provides a breadth of perspective that summons us to become more fully aware of the precious nature of our potential.

For our part, from the inception, perfusionists have played an integral and central role in the development and evolution of the HLM and clinical CPB. No less than that of the great pioneering surgeons has their work lent itself to the creation and perpetuation of our heritage. Much of the respect today accorded cardiovascular perfusion as a profession can be traced directly to their distinguished work. How apt, therefore, that in this issue of *The Perfusionist*, John Basaraba, British Columbia's first perfusionist and chief is memorialized. We send our deepest respects to John's family and loved ones.

Finally, it should be noted that those great pioneers of open–heart surgery, like so many others, reported their early experiences and ideas through case reports. Case reports represent the oldest and most familiar form of medical communication. They formalize the sharing of clinical experience, convey important observations, increase awareness and expand the field of knowledge. In recent years there has been a renewed appreciation for the sharing of information through the medium of case reports for all healthcare disciplines, as evidenced by the growth in new journals, such as BMJ Case Reports, Clinical Case Reports, and Journal of Surgical Case Reports, dedicated solely to the publication of case reports. In this issue of *The Perfusionist* is the new case report template. It is hoped that these guidelines will both simplify and standardize the preparation of case reports for submission to *The Perfusionist*. Any novel, challenging or unusual case or set of circumstances almost always meets the criterion of worthiness. I heartily encourage all to consider sharing their experiences and observations by submitting case reports to *The Perfusionist*.

1. Cardiopulmonary Bypasss: Principles and Practice, 2nd edition. Edited by Glenn P. Gravlee, Richard F. Davis, Mark Kurusz, and Joe R. Utley. 2000. Lippincott Williams & Wilkins, Philadelphia, PA

2. Stoney WS. Evolution of Cardiopulmonary Bypass. Circulation. 2009; 119: 2844-2853.

Memorial

John Basaraba

October 6th, 1926 to April 20th, 2013

Premier perfusionniste et chef en Colombie-Britannique, John Basaraba, est décédé le 20 Avril 2013. Il avait 86 ans.

John a commencé à l'Hôpital général de Vancouver en 1955 et s'est retiré de la perfusion en 1984. J'avais toujours pensé que quelqu'un aurait entendu parler de sa mort, et qu'un contingent de la vieille garde voudrait marcher jusqu'à la salle funèbre pour lui rendre hommage. Hélas, ça n'a pas été le cas : il s'est éclipsé sans que personne du VGH ne s'en aperçoive, l'endroit où il avait servit toute sa vie avec dévouement.

L'héritage de Jean vit dans des choses simples comme le porte-tube Basaraba, encore en usage aujourd'hui. Mais son héritage est plus profond et beaucoup plus riche que cela. Ce vieux monsieur au grand cœur était un véritable pionnier. Retournons dans les années cinquante. John, un «préposé aux cylindres" (inhalo), fait ses débuts au « cœur ouvert» en faisant l'erreur de montrer un certain intérêt pour les chiens qui aboient parmi les animaux du laboratoire. Il a été saisi par l'anesthésiste Bill Dodds qui lui a dit : pousse ce levier, garde tout cela rouge et par tous les moyens surveille le tout. À l'époque tout le matériel de perfusion était fait à la main à partir du croquis fait au crayon d'une machine qu'un jeune chirurgien mâle avait vue, il y a un certain temps, dans des endroits comme les cliniques Mayo et Cleveland. Vous étiez vraiment seul à cette époque., Si vous aviez besoin d'aide ou de conseils vous ne pouviez pas «texte» un collègue en Suède, ou utiliser un téléphone cellulaire pour appeler quelqu'un à Toronto. Vous deviez attendre une lettre, ce qui pouvait prendre jusqu'à un mois, et c'est seulement si vous saviez à qui écrire. Une saturation veineuse appropriée était de la même couleur qu'une boîte de cigarettes no 7 : la cigarette de choix de tous les garçons de pompe. Hélas, à l'époque en CB, il n'y avait pas de filles pompistes. Il n'y avait aucun détecteur de bulles ou de niveau pour vous donner un coup de main, et en fait, pas d'alarmes d'aucune sorte. Les kits de tubes ne jaillissaient pas d'une boîte configurés exactement pour la pompe. Non, ils étaient taillés à la main, montés avec des connecteurs métalliques, stérilisés sur place et utilisés maintes et maintes fois. Les oxygénateurs étaient faits de verre, de métal et de bouteilles d'anti -mousse.

Pour amasser des fonds pour acheter la première pompe cardiaque de l'HGV, une pompe Sigma, un jeu de bingo illégal avait été organisé, et démantelé plus tard par les flics. Les chirurgiens, qui ont pris la fuite rapidement par la porte de derrière, ont laissé John, pour ainsi dire, avec tout sur les bras... Le lendemain, le chirurgien Trappa, Allen, et Ashmore ont payé sa caution avant que l'épouse de John n'ait été avisée. Cette expérience lui a été cachée pendant des décennies. Étant le genre de gars terre-à-terre qui ne se cassait pas la tête, la ligne d'enseignement préférée de John était : "vous n'avez pas vraiment besoin de le savoir." La plus part du temps il avait raison ; garder la rotation de la pompe, le sang rouge et pour l'amour du Christ ne pomper pas d'air !

Beaucoup de perfusionnistes de la première génération ont visité l' HGV et John pour son expérience. Parmi eux, Peter Fortini, qui venait de s'installer à Calgary, Denis Nugent à Regina, Marcel Roy de Winnipeg et Ted Flegel qui a mis en place le programme de pédiatrie de la CB. Et d'autres, qui ont ensuite travaillé sous ses ordres comme Brian McCloskey de Foothill, Harry Mickelson de l'Hôpital de Saint-Paul, Arnold Benak et Pierre Laboisiere tous deux de Seattle. Beaucoup de représentants s'aventuraient sur la côte humide orientale pour voir John et lui présenter leurs marchandises. Les Européens ont mieux résisté que certains Torontois pur et dur. Plusieurs fois, Jean voyait ces derniers arriver et se cachait derrière la porte de la salle d'opération.Les représentants ont finalement trouvé une façon de contourner ce problème en s'attardant un peu plus longtemps pour faire valoir leurs points.

Quand John a pris sa retraite, plus de 300 personnes, des dignitaires et même des patients étaient présents au diner d'adieu de cette «rock star». Ce fut un réel hommage à l'homme et à ce qu'il avait accompli. Nous avons encore quelques souvenirs de John : l'ancienne pompe Sigma, les premiers enregistrements de patients opérés à cœur ouvert, des oxygénateurs à disques, de vieilles photos, etc. Je pense que ces choses nous rappellent de temps en temps de regarder en arrière pour voir où nous avons été, et d'apprécier où nous allons. L'empreinte de John est pour toujours imprimée en CB., et dans le paysage «à cœur ouvert» du Canada.

ohn a passé ses années de retraite à voyager avec son épouse Yvette, âgée de 64 ans, qui l'a précédé dans la tombe de seulement deux mois. Il laisse dans le deuil son fils, trois filles, dix petits-enfants et trois arrière-petits-enfants.

Repose en paix Jean,
David Nash
Superviseur, Services de Perfusionist,
Hôpital général de Vancouver

60 ans et ça continue...

Dean Belway
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Le grand aviateur Américain Charles Lindbergh a dit un jour: «La vie est comme un paysage. Vous vivez au milieu de celui-ci, mais ne pouvez le décrire seulement que d'un point de vue plus distant." Si le temps est la mesure de la distance, notre point de vue sur le présent devient plus clair en considérant le passé. Lindbergh a judicieusement nommé son avion le Spirit of St. Louis, car c'est grâce à l'esprit qu'une chose est mieux comprise.

Le 6 mai 2003 a marqué le 60e anniversaire de la première application réussie de la circulation extracorporelle (CEC). Sous vision directe, le Dr John Gibbon Jr a fermé un défaut septal interauriculaire chez une patiente de 18 ans pour la première fois alors qu'un circuit extracorporel maintenait sa fonction cardiorespiratoire. Cet événement majeur est largement considéré comme l'un des jalons médicaux les plus importants du 20ème siècle (1, p3). Il nous appartient de faire une pause à ce moment opportun, comme Lindbergh y a réfléchi, pour étudier une fois de plus le paysage, à la fois pour nous familiariser à nouveau avec les circonstances qui entourent cet exploit singulier, et d'envisager à nouveau la profession que cet événement extraordinaire a fondée pour nous.

Le succès de Gibbon a marqué le début d'une nouvelle ère qui a révolutionné le traitement des maladies cardiaques. La chirurgie à cœur ouvert complexe n'était tout simplement pas possible sans CEC. D'innombrables vies en ont depuis bénéficié. Cependant, le chemin vers le développement d'une machine cœur-poumon artificiel viable était plein de revers et d'échecs catastrophiques. Autre un seul cas de réussite, l'expérience clinique initiale avec CEC était une série de catastrophes, avec un taux de mortalité beaucoup trop élevé (2). Des années plus tard, en examinant toutes les opérations à cœur ouvert rapportées dans la littérature chirurgicale, Walton Lillehei a affirmé que, entre 1951 et 1955, des 18 patients ayant subi une opération en utilisant une circulation extracorporelle, il y a eu 17 morts et un seul survivant.

C'était une époque où beaucoup des contemporains de Gibbon croyaient que la chirurgie à cœur ouvert serait à jamais impossible. Quand il a commencé ses expériences, de nombreux collègues et conseillers de Gibbon pensaient que c'était un projet trop difficile avec peu d'espoir de succès. Pour eux, le concept de réparation à cœur ouvert et de développement de la machine cœur-poumon artificiel (CPA), était une idée séduisante, mais irréalisable. Les premiers échecs ont renforcé cette idée.

Mais Gibbon n'était pas seul dans sa quête d'un CPA qui permettrait la réparation cardiaque complexe. À l'Université de Toronto Medical School, le Dr Mustard a développé une machine cœur-poumon en utilisant des poumons de singes isolés comme oxygénateur (2). Au Wayne State Medical School, Forest Dodrill et un groupe d'ingénieurs de General Motors ont développé la pompe Dodrill-GMR. Clarence Dennis à l'Université du Minnesota Medical School a développé un oxygénateur à disque rotatif, et C. Walton Lillehei, également à l'Université de Minnesota Medical School, a développé la circulation croisée comme technique de CEC. À la Mayo Clinic, John Kirklin travaille sur la machine cœur-poumon Mayo-Gibbon avec oxygénateur à film vertical et pompe à rouleaux. Ils ont persévéré dans la tâche ardue qu'ils s'étaient donnée, malgré l'adversité et le pessimisme, jusqu'à ce que finalement le succès couronne leur entreprise, inaugurant ainsi l'âge de la perfusion cardio-vasculaire.

Leur ténacité et leur résolution ont finalement porté leurs fruits au-delà de ce qu'ils auraient pu imaginer. D'innombrables vies en ont bénéficié. Leur héritage est incommensurable. Pour nous, héritiers de leurs efforts de pionniers, ils ont légué un patrimoine inestimable. Mais à quel point comprenons-nous vraiment les dons que nous avons reçus et le modèle créé pour nous? Limiter notre appréciation de leur contribution aux machines et innovations techniques qui ont rendu la chirurgie cardiaque sûre et efficace, c'est de passer à côté de la vertu complémentaire mais tout aussi précieuse de leur esprit. Leur ténacité, leur courage, leur dévouement et engagement, leur détermination, la poursuite sans relâche de leur passion sans se laisser décourager par la médisance et l'adversité, la force de leur caractère ; ceux-ci sont parmi les richesses de notre patrimoine. Percevoir l'impact de leur esprit, comment il définit notre caractère, offre un large éventail de perspective qui nous appelle à devenir plus conscients de la nature précieuse de notre potentiel.

Pour notre part, dès le début, les perfusionnistes ont joué un rôle essentiel et central dans le développement et l'évolution du CPA et de la CEC clinique. Pas moins que celle des grands chirurgiens pionniers, leur travail a contribué à la création et la pérennisation de notre patrimoine. Une grande partie du respect accordé aujourd'hui à la perfusion cardiovasculaire comme profession peut être attribué directement à leur travail remarquable. Quoi de plus à propos, donc, que John Basaraba, premier perfusionniste et chef de la Colombie-Britannique, soit commémoré dans ce numéro du Perfusionniste . Nous envoyons nos plus sincères respects à la famille de John et ses proches.

Enfin, il convient de noter que ces grands pionniers de la chirurgie à cœur ouvert, comme tant d'autres, ont rapporté leurs premières expériences et idées grâce aux études de cas. Ils représentent la plus ancienne et la plus familière forme de communication médicale. Ils formalisent le partage de l'expérience clinique, transmettent des observations importantes, informent et élargissent le champ des connaissances. Au cours des dernières années, il y a eu une nouvelle appréciation pour le partage de l'information par l'intermédiaire d'études de cas dans toutes les disciplines de la santé, comme en témoigne la croissance de nouvelles revues, telle que BMJ Case Reports, Clinical Case Reports et le Journal of Surgical Case Reports, qui se consacrent exclusivement à la publication d'études de cas. Dans ce numéro du Perfusionniste se trouve le nouveau modèle d'étude de cas. Il est à espérer que ces lignes directrices à la fois simplifieront et normaliseront la préparation d'études de cas à soumettre au Perfusionniste. Tout cas nouveau ou difficile, ou un ensemble de circonstances inhabituelles, répondent presque toujours au critère de pertinence. J'encourage vivement tous à envisager de partager leurs expériences et observations en soumettant des études de cas au Perfusionniste.

1. Cardiopulmonary Bypass: Principles and Practice, 2e édition. Edité par Glenn P. Gravlee, Richard F. Davis, Mark Kurusz, et Joe R. Utley. 2000. Lippincott Williams & Wilkins, Philadelphia, PA
2. Stoney WS. Evolution of Cardiopulmonary Bypass. Circulation. 2009; 119: 2844-2853.

Ask Kathy! ❧ Kathy vous répond

Kathy Currado
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Welcome to "Ask Kathy", where my purpose is to help keep our membership informed about National Office issues and matters of interest to our members.

One of the most feared expressions in the modern world is "My computer is down" … in my world it's "the website is down". Things are finally back to normal with the website and the deadline for dues payments has now past. If you have forgotten to pay your dues, you will be subject to the late fee. Thank you to everyone who filed recertification (if required this year) and paid your dues in a timely fashion. Thank you to all who were so patient with the website issues.

The official membership receipts will be mailed out to everyone after the Board of Director's meeting in September. During that meeting the membership listings will be confirmed and then posted/updated on the CSCP website. You can at that time check to see if you're required to file recertification by July 2014. A red asterisk* will appear beside your name if so required. For those of you who have applied for an extension to your recertification this year you will also be notified after this meeting with instructions on how to proceed to fulfill your requirements. Please note that applying for an extension does not delay or change your recertification cycle going forward. .

IMPORTANT REMINDER: The new policy for recertification will be in effect starting July 1, 2014. For further information regarding the new policy requirements, please visit the CSCP website under "Members" > "Certified Members List".

Registration time has arrived for Vascular 2013 & CSCP Annual General Meeting and Scientific Sessions in Montreal. We do not accept registrations for this meeting via the CSCP website. You can register at www.cardiocongress.org

The National Office and website committee have been working on designing a whole new website for the CSCP. We hope to have the new website launched by the next dues season barring any unforeseen circumstances. Your patience is much appreciated.

Bienvenu à «Demander à Kathy» où mon but est de garder nos membres informés des sujets du Bureau National et de toutes autres questions pouvant les intéresser.

Une des expressions les plus redoutées dans le monde moderne est «Mon ordinateur est en panne». .. Dans mon monde c'est « Le site est en panne». Les choses sont enfin de retour à la normale avec le site et la date limite de paiement des cotisations est maintenant passée. Si vous avez oublié de payer votre cotisation, vous serez soumis à des frais de retard. Merci à tous ceux qui ont déposé leur re-certification (si nécessaire cette année) et payé leur cotisation dans la limite de temps requis. Merci à tous pour votre patience lors des problèmes du site Web.

Les reçus officiels d'adhésion seront envoyés à tout le monde aaprès la réunion du CA en septembre. Au cours de cette réunion, les listes de membres seront confirmées, publiées et mises à jour sur le site web du CSCP. Vous pourrez, à ce moment, vérifier si vous êtes tenus de faire une nouvelle certification en juillet 2014. Un astérisque rouge * apparaîtra à coté de votre nom si nécessaire. Pour ceux d'entre vous qui, cette année, ont demandé une extension de votre certification, vous serez également averti, après cette réunion, des instructions sur la façon de procéder pour répondre aux exigences. S'il vous plaît noter que la demande de prolongation ne retarde ni ne change votre cycle de re-certification.

I cannot give you the formula for success,
but I can give you the formula for failure — which is:
Try to please everybody.
~ Herbert Bayard Swope

President's Message ❧ Message du président

Ray van de Vorst
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Good day fellow Perfusionists. As I write this I am @ the Calgary airport leaving on holidays so first off I hope everyone enjoys(ed) their summer holidays. If you did not get away I recommend an extended stay in Montreal in October this year. The CCC will be quite extensive as Vascular will be a part of it. Mr O'Reilley is planning another excellent meeting including a simulation suite and conjoint sessions. Having said that there is still opportunity for members to submit presentations.

Regarding meetings congratulations to the Eastern region for its very successful meeting held earlier this year and the election of Juliie Gagnon to be the Eastern region rep as David steps down this year.

This year John Miller, in his capacity as Vice President will be choosing the team award to be presented at the AGM please feel free to inundate him with nominations either your team or others to help him decide! We will also be revamping the Career Achievement award to acknowledge all who have survived the last twenty or more years. Considering how many "experienced"??? Members we have as well as new members with drive and new ideas I put forth the perennial call for participation in the society through board membership or just letting the board know you are willing to serve as a reference or in some capacity.

In September we will be having a Board meeting so again please feel free to call me or the regional rep. (take into account time zones) with issues that you would like us to be paying attetion to. Though slow the goal is to be accountable and responsive to the members and make for a better overall organization. Some issues being dealt with or preparing for are the new rules from Corporate Canada, the upcoming comptency profile and the continuing discussion of maintaining our national identity/structure as organizations hospitals and ourselves look more and more into costs.

So my flight is called so hope to hear from you.

Bonjour amis perfusionnistes. Au moment d'écrire ces lignes, je suis à l'aéroport de Calgary en partance pour mes vacances. Alors pour commencer, j'espère que tout le monde profite ou ont profité de leurs vacances d'été. Si ce n'est déjà fait, je vous recommande un séjour prolongé à Montréal en octobre de cette année. Le CCC sera assez grandiose étant donné que la chirurgie vasculaire y sera intégrée cette année. M. O'Reilley prévoit une autre excellente réunion, un simulateur sera disponible sur place et la tenue de séances conjointes feront partie de la programmation. Cela dit, il ya toujours possibilité pour les membres de soumettre des présentations.

En ce qui concerne les réunions, félicitations à la région de l'Est pour sa réunion très réussie qui a eu lieu plus tôt cette année ainsi que pour la nomination de Julie Gagnon comme nouvelle représentante de la région Est étant donné la fin du mandat de David.

Cette année, John Miller, à titre de vice-président, devra choisir le récipiendaire du prix de l'équipe de l'année qui sera présenté lors de l'assemblée générale. S.V.P., n'hésitez pas à l'inonder de candidatures, que ce soit pour votre équipe ou d'autres personnes afin de l'aider à faire un choix. Nous sommes également en train de réorganiser le « Prix accomplissement de carrière » pour remercier toutes les personnes qui ont survécu au dernier vingt ans ou plus. Combien d'années sont à considérer???

Nous avons plein de nouveaux membres qui ont plein de fougue et de nouvelles idées, je veux refaire mon éternel appel à la participation dans notre Société soit pour faire partie de l'exécutif ou tout simplement pour laisser savoir à l'exécutif que vous êtes prêt à vous impliquer dans la SCPC.

En Septembre, nous aurons une réunion du conseil, encore une fois, s'il vous plaît, n'hésitez donc pas à me contacter ou votre représentant régional (tenir compte des fuseaux horaires) pour nous faire part des questions auxquelles vous aimeriez que nous portions attentions. Même si cela peut sembler lent, le but est d'être responsable et sensible aux membres et faire en sorte d'avoir une meilleure organisation globale.

Nous travaillons présentement sur certaines questions et d'autres sont en préparation comme les nouvelles règles de Corporations Canada, le profil de compétences à venir et la poursuite du débat sur le maintien de notre identité et de la structure nationale, les organisations, les hôpitaux et notre société à devenir plus responsable financièrement.

Donc, je vous laisse car je viens d'être appelé pour mon embarquement et j'espère avoir de vos nouvelles.

Vice President's Message ❧ Message du vice président

John Miller
cscp@cscp.ca

Recent events here in Alberta have served as a poignant reminder of the incredible value of cooperation and collaboration. The tremendous damage and loss to property suffered by so many in southern Alberta is unprecedented in the history of this province, and has only been equaled by the tremendous outpouring of support for those in need. The City of Edmonton sent firefighters, water and power crews, and police officers. Brian McCloskey even asked only half-joking if the Edmonton perfusion staff could help cover urgent cases and some on-call in Calgary because so many of his staff were not able to cross the rivers and get to the hospital.

The cooperative support and good will brought out by this kind of disaster remind us what we can achieve by collaborating and working together to support and serve a common goal. The CSCP and the Perfusion community in Canada provide a similar example. Not in that we are facing a crisis of epic proportions, but by demonstrating the strength of the Society we have built by contributions from across the country and over the last few decades. Our collaborative and cooperative nature shines in our willingness to share information at conferences and in publication, in training our students and supporting our perfusion education programs, in perfusionists working locum tenens to help out departments that are short-staffed, and the list goes on…

We have a perfusion community and a national society we can all be proud of, and it's because of the commitment and contributions that we all bring to our profession every day. Thanks to all of you for making a difference.

Les récents événements survenus ici en Alberta ont servi comme un rappel poignant de l'incroyable valeur de la coopération et de collaboration. Les énormes dégâts et pertes subis par tant de personnes dans le sud de l'Alberta est sans précédent dans l'histoire de cette province, et n'ont été égalés que par l'énorme vague de soutien apportée à ceux qui en avaient besoin. La Ville d'Edmonton a envoyé des équipes de pompiers, de l'eau et de l'énergie, ainsi que des policiers. Brian McCloskey a même demandé en plaisantant si les perfusionnistes d'Edmonton pouvaient aider à couvrir les cas urgents e certains appels à Calgary car beaucoup de ses collaborateurs étaient incapables de traverser les rivières et se rendre à l'hôpital.

Le soutien coopératif et la bonne volonté mise en évidence par ce genre de catastrophe nous rappellent ce que nous pouvons réaliser en collaborant et en travaillant ensemble à soutenir et servir un objectif commun. La SCPC et la communauté de perfusionnistes au Canada fournissent un exemple similaire. Non, pas en étant confrontés à une crise de proportions épiques, mais en démontrant la force de la Société que nous avons construite par les contributions à travers tout le pays au cours des dernières décennies. Notre nature collaboratrice et coopérative brille dans notre volonté de partager des informations par des présentations scientifiques et par des publications, dans la formation de nos étudiants et le soutien de nos programmes d'éducation en perfusion, par les perfusionnistes travaillant pour aider les départements qui manquent de personnel, et la liste pourrait s'allonger ...

Nous avons une communauté de perfusionnistes et une Société nationale dont nous pouvons tous être fiers, et c'est à cause de l'engagement et de la contribution que nous apportons tous à notre profession tous les jours. Merci à vous tous de faire une différence.

Eastern Region Région est

David Tibbet
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Hello all, the Eastern Region Meeting was held on May 24th to May 26th , 2013, at the Hotel Château Laurier, in Québec City. The meeting had 88 registrants, and each participant earned 16.2 CEU's. The talks were wonderful and the food was delicious. Chris Fowlow and Steve Taylor, Coordinators for the Eastern Region Meeting, with help for Manon Caouette, organized the meeting. Their hard work was evident in every component of the three day meeting.

Saturday was the big day. It started at the break of dawn with a well attended "Fun Run/Walk", with prizes for some of the participants. After a full day of meetings, we all travelled on a Calèche (Horse Drawn Carriage) tour of Old Québec City. Dinner was at the Voodoo Club. It was an amazing dinner, followed by dancing into the wee hours in the top floor dance bar.

I would like to congratulate Julie Gagon for becoming the new Eastern Region Director. Julie is presently the Chief Perfusionist at The Jewish General Hospital in Montréal, Québec.

The AGM in Montréal this year is expected to be one of the best!! Be sure to attend.

Bonjour tout le monde, La réunion de la région de l'Est a eu lieu du 24 mai au 26 mai 2013, à l'Hôtel Château Laurier, de Québec. 88 personnes y étaient inscrites, et chaque participant a obtenu 16,2 unités d'éducation continue. Les présentations ont été excellentes et la nourriture était délicieuse. Chris Fowlow et Steve Taylor, coordonnateurs de la réunion de la région de l'Est, avec l'aide de Manon Caouette, ont organisé la réunion. Leur travail acharné à l'organisation de cette réunion a été évident dans tout le déroulement de cette rencontre de trois jours.

Samedi était une journée très occupée. Elle a commencé à l'aube avec une bonne participation au "Fun Run / Walk", des prix ont été remis à certains participants. Après une journée d'exposés scientifiques, nous avons fait une visite en calèche de la vieille Ville de Québec. Le souper était au Voodoo Club. C'était un merveilleux repas, suivi d'une soirée dansante jusqu'aux petites heures dans la discothèque à l'étage supérieur du restaurant.

Je tiens à féliciter Julie Gagnon qui est maintenant le nouveau directeur de la région de l'Est. Julie est actuellement le chef perfusionniste à l'Hôpital général juif de Montréal, Québec.

L'assemblée générale annuelle prévue à Montréal cette année devrait être l'une des meilleures! Assurez-vous d'y assister.

Call for Nomination Appel à la candidature

The CSCP requires a Certified Member to fill the position of Liaison to the International Consortium for Evidence-Based Perfusion (ICEBP). The Liaison will serve as the CSCP Representative to this international committee working collaboratively toward the scientific advancement of best-practices in cardiovascular perfusion.

If you are interested in serving in this Committee position, please submit your Willingness to Serve and your Nomination forms to the CSCP National Office.

John Miller
CSCP Vice-President

Le CSCP a besoin d'un membre certifié pour combler le poste de liaison à «l'International Consortium for Evidence-Based Perfusion (ICEBP)». La liaison à ce comité international, se fera en tant que représentant du CSCP, qui travaille en collaboration à l'avancement scientifique des meilleures pratiques en perfusion cardio-vasculaire.

Si vous êtes intéressé à combler ce poste du comité, s'il vous plaît , montrez votre intérêt en soumettant vos formulaires de mise en candidature au bureau national de la SCPC.

John Miller
CSCP vice-président

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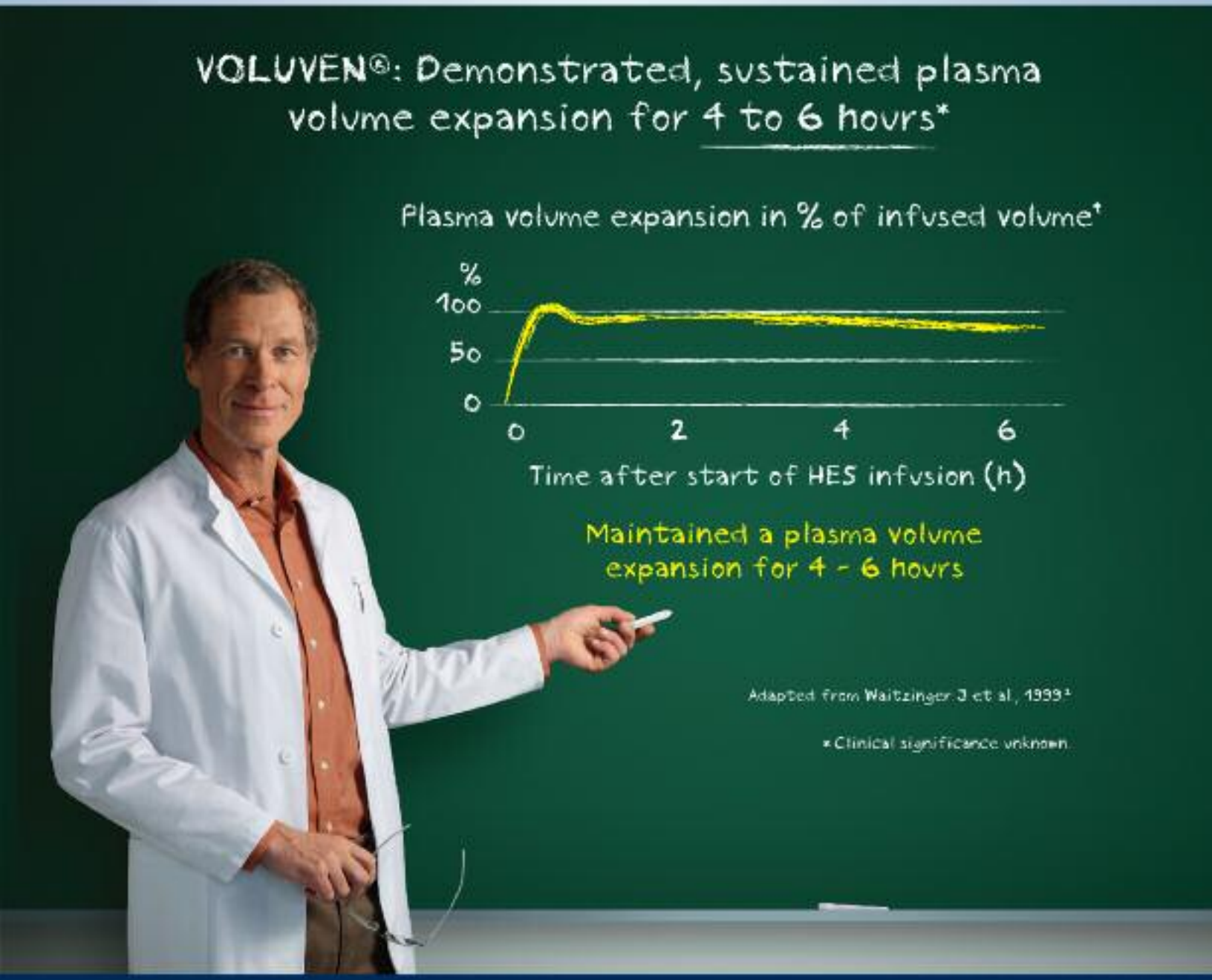

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†Based on a study of 12 healthy male volunteers. Subjects received 500 mL VOLUVEN® following a 500 mL bleed.

REFERENCES: 1. VOLUVEN® Product Monograph, Fresenius Kabi, June 28, 2011. **2.** Waitzinger J, et al. Pharmacokinetics and Tolerability of a New Hydroxyethyl Starch 0 (ES) Specification (HES (130/0.4)) After Single Dose Infusion of 6% or 10% Solutions in Healthy Volunteers. Clin Drug Invest 1998; Aug 16 (2): 151-160.

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See Prescribing summary on page 73

Message from ACE ❧ Message du ACE

In November 2012, the six members of the ACE committee met in Québec City for five days. During these days, we corrected the 2012 Canadian Credential Exam written by nine candidates. I would like to take the opportunity to congratulate everybody for their successful exam. Congratulations also goes to Myriam Burns from University of Montréal for winning the Alec Thorpe Award. This award is given to the first time writer achieving the highest passing mark on the National Certification Exam.

Exceptionally this year, the Canadian exam will take place on Thursday October 17th at the Westin Hotel in Montréal. We expect to have 20 candidates challenging the exam; among them, the first cohort from the BCIT program.

During the winter of 2012–2013, the ACE committee developed a new manual for candidates challenging the Canadian Exam. This manual, called *Candidate Manual*, is now available on the CSCP website under the documents tab. It contains all the information required from the application process, to the writing of the exam, standard values, the formulas used for calculations, a list of all the abbreviations, sample questions, etc. We hope this new document will help the candidates to be better prepared.

The ACE committee faced a big challenge this year with the request for data mining of the national certification exam. The Canadian Medical Association (CMA) request that more information on the results of the exam needs to be provided to the formation institutions post certification exams. The CSCP was required to purchase a new LXR Exam program. With this new program, we will now be able to manage and pull more information from the exam and create detailed statistical reports to each school and also offer a performance profile for each candidate. We are really proud and excited about this new program.

The CSCP Entry–Level Competency Profile for Clinical Perfusionists is already up for review next year. This will be the fourth profile developed by the CSCP. The resulting Competency Profile is used for Curriculum development by educational institutions, for CMA accreditation of institutions and for CSCP Certification Exam development. Before creating the national survey, we will welcome any suggestion for new competencies in our clinical practice that are not already listed.

Best regards,
Manon

En novembre 2012 les membres du «ACE» se sont rencontrés à Québec pendant 5 jours. Durant ces journées nous avons corrigé l'examen de certification Canadienne que 9 candidats avaient passé. J'aimerais prendre cette occasion pour féliciter chacun de leur réussite à l'examen. Félicitation aussi à Myriam Burns de l'université de Montréal pour l'obtention du trophée Alec Thorpe. Ce trophée est remis à celui ou celle qui a obtenu la plus haute note de passage lors du premier essai à l'examen de certification nationale.

Exceptionnellement, cette année l'examen aura lieu le mardi 17 octobre au Westin Hotel de Montréal. Nous attendons 20 candidats qui passeront l'examen; quelques uns feront partie de la première cohorte du programme du «BCIT»

Pendant l'hiver 2012-2013, le «ACE» a développé un nouveau manuel pour les candidats qui passeront l'examen Canadien. Ce manuel a comme titre «Manuel du candidat» et est présentement disponible sur le site Web du CSCP sous la rubrique «document». Il contient toutes les informations pertinentes sur le processus d'application, le passage de l'examen, les valeurs normales, les formules utilisées pour les calculs, une liste d'abréviations, des questions simples, etc. Nous espérons que ce nouveau document aidera les candidats à mieux se préparer.

Cette année, le Ace est face à un grand défi avec la demande d'une base de données pour l'examen de certification national. L'Association Médicale Canadienne exige plus d'information aux institutions de formation sur les résultats d'examens. Le CSCP a fait l'achat d'un nouveau programme d'examens LXR. Avec ce nouveau programme nous aurons la possibilité de manipuler et d'amasser plus d'information sur l'examen, de créer des statistiques détaillées provenant de chaque institution et aussi d'offrir un profil de performance de chaque candidat. Nous sommes très fiers et enthousiasmés par ce nouveau programme.

Le Profil des Compétences du CSCP pour les perfusionnistes cliniques, est en cours de révision pour la prochaine année. Ce sera le 4ième profil développé par le CSCP. Le Profil des Compétences est utilisé par les institutions d'éducation pour le développement du Curriculum, l'accréditation des institutions par le CMA et pour le développement de l'examen de certification du CSCP. Avant la création d'un sondage national, toutes suggestions pour de nouvelles compétences dans votre pratique non encore listées, seront les bienvenues.

Bien à vous.
Manon

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Original Article ❧ Article d'original

Perfusion Live Audience Response Session — 2012 3rd Edition

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From October 27th to the 31st, the Canadian Cardiovascular Society and the Heart and Stroke Foundation of Canada co-hosted Canada's largest annual cardiovascular learning event, the Canadian Cardiovascular Congress (CCC) in Toronto. During this event, the Canadian Society of Clinical Perfusion (CSCP) held their Annual General Meeting and Scientific Sessions. The meeting was attended by CSCP members, international perfusionists, corporate members and students from different perfusion programs. On Monday October 28th, 2012, an audience response survey was held during the morning session.

The goal of this survey was similar to previous year's interactive surveys: obtain a general representation of the different practices across Canada and to address clinical, ethical and Society affairs issues related to the Canadian perfusion field. The survey was initially created as a document from questions electronically transmitted to the authors through a submission request sent to the different cardiac centers in Canada. The initial document was reviewed and revised by the authors. All submitted questions (n=90) were included in the final document. Unfortunately, only 52 questions could be asked due to session starting late and numerous software issues at the beginning of the session. While the technicians were trying to reboot the system, some of the questions were asked to the audience by rising hands, followed by discussions related to each topic.

A response wireless keypad was distributed to the attending audience, composed of 57 participants. The responses were collected with the use of the TurningPoint 2008 4.1 program (Turning Technologies Canada, Ontario, Ca). The interactive session lasted 60 minutes where the panel asked 58% of the questions from the bank with no additional questions added. Once the presentation was underway and the responses to the questions were displayed, the audience became more involved which stimulated interesting discussions. All keyboards were anonymously distributed. Unless specified in the question, we wanted individual personal opinion based on adult practice.

Audience Response Survey Data Collection

Due to unfortunate issues related to data acquisition during the interactive session, the authors have experienced serious problems in retrieving detailed responses and analysis. The objective was to break down all results using the demographic data. Unfortunately this was not possible due to the aforementioned issues. Data was prospectively recorded manually as a back up procedure during the session along with photographic snapshot of the presentation screen. Fortunately, none of the questions have missing data.

Results from this Audience Response Survey are presented in five different sections. The questions are listed in the order they were asked. The questions were not known to the audience prior to asking them. A ten seconds period was allotted to the audience to make their selection. The authors have decided to comment on a selected number of results.

- Section 1: Perfusion Demographics
- Section 2: Perfusion Practice and Techniques
- Section 3: Ethic and Professionalism
- Section 4: Society - Business Affairs
- Section 5: Summary Questions

The three CSCP geographic regions were represented with a majority coming from the central region. Amongst the participants in the room, 56% have been practicing perfusion for more than ten years while 14% with less than one year experience. We believe this is again an excellent representation of different levels of experiences. As expected and similar to the previous years, 81% were primarily adult perfusionists.

The intention of the authors is not to analyse every result from the survey. We prefer to leave it up to each practitioner to read the results and draw their own conclusions. We encourage every perfusionist, student and corporate member to send comments through a letter to Editor to keep the discussion alive on different aspects of our profession.

Audience Response Survey Results and Discussion

Two years ago, the audience was asked if they practice oxygenator change out in their institution. Surprisingly, 21% answered actively practicing this important emergency situation. Last year, 28% answered positively to this same question, and this year, 29% answered practicing this procedure. Interestingly, during the 2010 session, 87% mentioned we should practice regularly while 37 % mentioned having to change an oxygenator during bypass in the previous five years. Despite stating we should practice and knowing oxygenator change out does occur clinically, there is still less than one third of the present perfusionists which practice this critical procedure. We still hope these results and discussions will stimulate some cardiac centres to revise their crisis management protocols coupled to practice drills and ultimately offer better safety margin for patient care.

Perfusion accidents and its management is an important and unavoidable facet of our work. Amongst the participants, 23% had to change an oxygenator due to a leakage prior to CPB and 33% had to change part of the circuit due to some kind of a failure in circuit/connector before initiating CPB. This correlates with the results from the previous year. Is the equipment made cheaper than before? For 48% of the participants, the answer was yes! These kinds of answers have to be taken with a grain of salt but this seems to be an important message to the medical companies. When the audience was asked if they ever experienced circuit rupture/line separation during CPB, 42 % (n=24) answered yes. Amongst these 24 participants, this situation happened within the last 3 years for 60% of them and surprisingly within the last year for 43%. Are we ready to face this kind of situation while on CPB? Prevention of rare events is a generic problem not limited to cardiopulmonary bypass. Perfusion has become extraordinary safe, in part, due to better understanding of the equipment but also to build-in safety features. Despite using modern computerized equipment, incidents and accidents continue to occur with potential disastrous patient outcomes. An easy mean to reduce the incident of circuit rupture would be to push tubing dry, as much as possible and to apply a tie wrap. Interestingly, 30 % of the participants always apply tie wrap to their tubing and 30% never do. As questioned by Keats in 1988 (foreword of the book entitled Safety and techniques in perfusion), are these disasters simply from inattention, complacency and lack of vigilance or from perfusionists extraordinary ingenuity in finding new ways to misuse equipment? Marie-Soleil Brosseau presented during the scientific sessions a case report entitled: *An unfortunate event during CPB*. This real case involving the VAVD showed us how important it is to be ready for these situations that require immediate prompt response from the perfusionist and the O.R. team. Is it the time to compile all accidents occurring with cardiopulmonary bypass? Should we create a national database?

Reading, analysing and discussing the results may bring more questions to the readers as it did for the authors. As previous years, it is not the intention of the authors to comment on every question asked. As the third session is now ready to be published, the authors are quite happy about the comments received from the participants either during the session or verbally after the session. Not only the questions were asked or answered but a lively discussion took place freely during the session in order to discuss some important issues that may not otherwise be discussed in a regular session. Discussions on important aspects of our profession are indeed the best way to gain knowledge and find ways to be better for the patients we care about. Upon closure of the session, 93% of the participants would like to participate again or have their colleagues to participate to a similar session. It sounds like everyone enjoyed this spontaneous interactivity. Holding a fourth session is under evaluation. We will need to have the right equipment to hold this kind of interactive session. Meanwhile, members from the CSCP can send some questions via e-mail. All questions will be reviewed, combined if necessary and asked to the participants in the event a fourth interactive session occurs.

Conclusion

We can state from the comments received, that most of you in attendance to the session really enjoyed the discussions. Unused questions will be kept for potential future sessions.

Reed, C, Kurusz M and Lawrence A.E., Safety and Techniques in Perfusion, Quali-Med Inc., Texas, USA, 1988.

Perfusion Demographics

What is your gender?

Male	29	49.2%
Female	30	50.9%

Have you participated before to a CSCP Audience Response Session?

· Yes	34	56.7%
· No	26	43.3%

What region of Canada do you live in?

· Eastern region	22	38.6%
· Central region	24	42.1%
· Western region	8	14.0%
· Outside Canada	3	5.3%

Which of the following best describes your position?

· Certified Clinical Perfusionist	52	86.7%
· Student Perfusionist	5	8.3%
· Clinical Specialist/Consultant	0	0%
· Company Representative/Sales	0	0%
· Other	3	5.0%

How long have you been a practicing clinical perfusionist?

· <1 year	8	13.6%
· 1 to 5 years	8	13.6%
· 5 to 10 years	10	17.0%
· 10 to 15 years	8	13.6%
· 15 to 20 years	6	10.2%
· >20 years	19	32.2%

How many CPB cases did you perform as the primary perfusionist in 2010?

· <50 cases	9	17.7%
· 50 to 100 cases	12	23.5%
· 101 to 150 cases	18	35.3%
· 151 to 200 cases	11	21.6%
· >200 cases	1	2.0%

As a Clinical Perfusionist, does your clinical practice involve:

· Adults only	46	80.7%
· Pediatrics only	4	7.0%
· Combination of both	7	12.3%

What percentage of cardiac cases are done as beating heart procedures?

· 0 to 20%	51	89.5%
· 21 to 40%	1	1.8%
· 41 to 60%	2	3.5%
· 61 to 80%	2	3.5%
· 81 to 100%	1	1.8%

In how many centres have you practiced in your perfusion career?

· 1	19	35.9%
· 2	16	30.2%
· 3	9	17.0%
· 4	4	7.6%
· 5	2	3.8%
· 6 or more	3	5.7%

Perfusion Practice and Techniques

Do you RAP?

· Yes	43	78.2%
· No	12	21.8%

What percentage of cases do you RAP?

· 0 to 25%	12	21.4%
· 26 to 50%	6	10.7%
· 51 to 75%	4	7.1%
· 76 to 100%	31	55.4%
· Once a while	3	5.4%

Do you have cerebral saturation monitor during CPB cases?

· Yes, always	9	16.4%
· Yes, sometimes	28	50.9%
· No, not available	18	32.7%

Who decides to use the cerebral saturation monitoring?

· Perfusion	1	2.1%
· Anesthesiology	41	87.2%
· Surgery	4	8.5%
· By written protocol	1	2.1%

If you have cerebral saturation monitor during CPB, do you make interventions?

· Yes, immediately	34	77.3%
· Yes, if I am told to….	7	15.9%
· No, I don't	3	6.8%

If you answered yes, is it based on: (38 respondents)

· Written hospital algorithm?	8	21.1%
· Your own algorithm/experiences?	22	57.9%
· Common sense?	8	21.1%
· Feeling?	0	0%
· Trial and errors?	0	0%

Do you use cerebral saturation monitoring for ECMO/ECLS

· Yes, always	4	8.7%
· Yes, sometimes	7	15.2%
· No, never	35	76.1%

Do you perform dialysis on CPB using:

· The hemodialysis technology department	3	5.4%
· A designated hemodialyser in line in your circuit	17	30.4%
· A regular hemoconcentrator in line in your circuit	28	50.0%
· Never do dialysis on CPB	8	14.3%

Why do you perform dialysis on CPB?

· To decrease K^+	13	26.5%
· To decrease urea and creatinine	8	16.3%
· To decrease K^+, urea and creatinine	24	49.0%
· For other reasons	4	8.2%

What is your technique of dialysis if you are using a *regular* hemoconcentrator

· Dialysis solution, counter-current, rapid flow	9	24.3%
· Dialysis solution, counter-current, slow flow	18	48.7%
· Other solution, counter-current, rapid flow	2	5.4%
· Other solution, counter-current, slow flow	8	21.6%

Perfusion Practice and Techniques (continued)

Do you apply tie wraps to your perfusion circuit?

· Yes, always	16	30.2%
· Yes, sometimes	21	39.6%
· No, never	16	30.2%

Regarding your CPB circuit, do you:

· Push all tubing, as much as you can, dry only	44	78.6%
· Push all tubings wet after priming the circuit	12	21.4%

Do you apply tie wraps after you have pushed a tubing wet?

· Yes, always	16	30.8%
· Yes if available	6	11.5%
· No	13	25.0%
· No because I never push tubing wet	17	32.7%

Have you ever experienced circuit rupture/line separation *during* CPB?

· Yes	24	42.1%
· No	33	57.9%

If yes (experienced line separation during CPB), when did it occur

· Within last year	10	43.5%
· Within last 2 years	1	4.4%
· Within last 3 years	4	17.4%
· Within last 4 years	1	4.4%
· Within last 5 years	3	13.0%
· More than 5 years	4	17.4%

Did someone in your department (including you) experienced line separation during CPB in the last year?

· Yes	28	50.9%
· No	27	49.1%

What is your average normal priming volume?

· <500 mL	1	1.8%
· 501 to 800 mL	12	21.4%
· 801 to 1300 mL	28	50.0%
· 1301 to 1600 mL	9	16.1%
· >1600 mL	6	10.7%

Do you start CPB with a dry venous line, using VAVD to initiate venous drainage?

· Yes, always	7	12.7%
· Yes, sometimes	1	1.8%
· No, never	39	70.9%
· No, this is malpractice	8	14.6%

In the last year, did you have to replace an oxygenator due to leakage prior to CPB?

· Yes	13	22.8%
· No	44	77.2%

In the last year, did you have to replace part of the circuit due to a break in the circuit/connector prior to CPB?

· Yes	22	39.3%
· No	34	60.7%

Do you feel the CPB equipments is made cheaper than previous years?

· Yes	29	52.7%
· No	26	47.3%

In the last year, have you experienced a perfusion accident with serious blood spillage requiring a blood transfusion?

· Yes	7	13.0%%
· No	47	87.0%%

Perfusion Practice and Techniques (continued)

Do you routinely practice oxygenator change out in your hospital?

· Yes	17	29.0%
· No	41	70.7%

For those who answered yes to previous, how often do you practice? (23 Respondents)

· Every 6 months	1	4.4%
· Every year	12	52.2%
· Every 18 months	1	4.4%
· Every second year	0	0%
· Once in a blue moon!	9	39.1%

Do you have a CDI 500?

· Yes on all cases	27	50.0%
· Yes, on some selected cases	7	13.0%
· No	20	13.0%

Do you use CDI technology for ECMO cases?

· Yes, every ECMO	15	29.4%
· Yes, if a machine available	1	2.0%
· No, never	35	68.6%

Ethics and Professionalism

Do you think it is appropriate to use leisure materials (newspaper, magazine, crossword, sodoku) while on CPB?

· Yes	2	3.5%
· No	56	96.6%

Have you ever witnessed another perfusionist use leisure materials while on CPB?

· Yes	41	69.5%
· No	18	30.5%

Have you ever used leisure materials while on CPB?

· Yes, sometimes	7	12.3%
· No, never	50	87.7%

Do you use your cell phone while on CPB for texting?

· Yes	18	30.5%
· No	41	69.5%

Do you think it is appropriate to use your cell phone for texting while on CPB?

· Yes	8	14.0%
· No	49	86.0%

Do you recycle (trays, wrapping, tubing caps, etc)?

· Yes	37	66.1%
· No	19	33.9%

Society Business Affairs

Concerning Perfusion Week

· We actively celebrated, and wanted to be eligible for the prize	6	10.9%
· We actively celebrated, but was a bit more low key	9	16.4%
· We had a coffee and donuts to celebrate	13	23.6%
· We did not celebrate perfusion week	27	49.1%

For those who did not celebrate, why not? (32 respondents)

· Did not have the time to celebrate	12	37.5%
· Did not have the staff to celebrate	10	21.3%
· Why bother, it's a waste of time	10	31.3%

Society Business Affairs (continued)

Do you feel High Fidelity Perfusion Simulation (HFPS) has a place in certification and recertification?

· Yes	43	75.4%
· No	14	24.6%

For those who answered NO: Have you ever participated in a HFPS session? (13 respondents)

· Yes	4	30.8%
· No	9	69.2%

For those who answered NO again: why are you against it? (7 respondents)

· I do not want to be evaluated by my peers	2	28.6%
· I am afraid of the situational scenarios that I may encounter	1	14.3%
· I feel that I would respond differently when faced a situation in real life compared to a HFPS scenario	4	57.1%
· I am losing my touch, and I do not think I handle stressful situations anymore	0	0%

Summary Questions

A sample question was sent to all CSCP members via the National Office Manager requesting your participation in this "Perfusion Live Audience Response Session". Did "your" perfusion department or yourselves responded:

· Yes	18	34.6%
· No	34	65.4%

Which best describes your feeling about this third Audience Response Session:

· Similar to questions I have thought about in my clinical practice	13	25.0%
· Typical survey questions, not very relevant to my practice	1	1.9%
· Sparked my curiosity with interesting responses	37	71.2%
· Not relevant to my clinical practice	1	1.9%

Would you like to participate or have your colleagues to participate to a fourth similar session?

· Yes	52	92.9%
· No, 3 years in a row is enough and nothing more can be learned for now	4	7.1%

Now that you have participated to an interactive session, and in the eventuality there would be another session, would you send questions you would like to hear about?

· Yes	45	86.5%
· No	7	13.5%

the Perfusionist

Tempora mutantur nos et mutamur in illis

Writing a Case Report

version 2013/3

The Official Publication of
Canadian Society of Clinical Perfusion

La publication officielle de la
Société Canadienne de Perfusion Clinique

This objective of this document is to help the author prepare a Case Report for submission to *The Perfusionist*, the official publication of the Canadian Society of Clinical Perfusion. These guidelines have been tailored to suit the perfusionist submitting a clinical Case Report to this publication, and have been derived from established guidelines, and follow standard IMRAD structure; an introduction, followed by a methods section, results section, and then a discussion and summary section. These guidelines promote consistency, and any submitted Case Report that does not follow these guidelines will be returned for revision. If you wish to further explore these guidelines, please visit the International Committee of Medical Journal Editors website, *icmje.org*, and the Committee on Publication Ethics website, *cope.org.*

Case Reports are scientific communications that typically describe unique clinical situations not found elsewhere in the literature, with the goal of helping medical professionals improve patient care. The Case Report found in *The Perfusionist* will follow these same basic principals as a formal Case Report, however, in recognition that perfusionists can benefit from Case Reports beyond the pure unique cases, acceptable Case Reports include both challenging and unusual cases that we encounter in our practice.

This document includes two sections:

- Section I discusses the required elements of the Case Report
- Section II consists of the Case Report Checklist

Please contact the editor to obtain any of these documents. They will ultimately be availbale on the CSCP's website.

If there are any questions about writing a Case Report for *The Perfusionist*, please contact

Editor, *The Perfusionist*
editors@warp.nfd.net.

What is a Case Report?

The reason to write a Case Report is to share with readers a case that has challenged you with something unique and interesting A case that you found *technically* difficult may not be ideal for a Case Report, especially if it is well documented elsewhere. For example, performing a retrograde cerebral perfusion case does not mean you should do a write–up simply because *you* found it a busy case. If you have found a novel way of accomplishing a routine retrograde cerebral perfusion case, then that may benefit from being discussed in a Case Report. Performing a warm retrograde cerebral perfusion case in a patient with cold agglutinins clearly is unique, and should be shared.

A Case Report should contain approximately 3,000 words, and have less than 15 citations. Two common mistakes that are frequently made when writing a Case Report is to write something that has many points of focus, and treating it as a review article.

Case Reports require a patient consent. If you find yourself immersed in a case that you are thinking "boy, that would make a great Case Report", then before that patient leaves the hospital, you need to have the attending physician obtain consent. Trying to write up six months later with no consent on file will be problematic. Having a consent on file and not writing a Case Report is easier than writing a Case Report and not having a consent on file.

The following pages and checklist will guide you on how to create a Case Report that will fulfill requirements. All sections need to be addressed, and the requirements within each section must be complete. ***Any text that appears in bold and italics must be inserted in your Case Report***. These guidelines have been tailored for the perfusionist, and have been derived from standardized guidelines. If you wish to further explore detailed guidelines, please visit the International Committee of Medical Journal Editors website, *icmje.org*, and the Committee on Publication Ethics website, *cope.org*. Publication ethics contain fundamental guidelines concerning structure, content, and ethics, all of which we need to follow.

Before you write, read this review. Before you submit, complete the checklist. Case Reports that do not follow these requirements will be returned for revisions. If you have any questions, please contact the editor at *editors@warp.nfld.net* to clarify them.

Page 1 — The Title Page

This page contains the title, all the author information, and any declarations that need to be made.

Title

The title of the Case Report should be clear and concise, and provide the reader with a good idea of what the Case Report will be about. The main point of the Case Report should be reflected in the title, and titles should not be in the form of a question. The title does not include any abbreviations or acronyms, and even common acronyms such as CPB, VAD, and ECMO should be spelled out. Although we understand them, those who are not perfusionists reading the title may have a different interpretations of those acronyms. Titles are less than 40 words in length.

Some examples; *"What would you do when your heart lung machine does not meet your expectations?"* This title does not clearly indicate why the heart lung machine failed to meet your expectations, and is in the form of a question. Was this because of a user issue or a mechanical issue? However, the title *"Management of mechanical failure of the heart machine during cardiac surgery"* focuses the Case Report. If the patient happened to be pregnant, then the title "*Management of mechanical failure of the heart machine during cardiac surgery on a pregnant patient"* introduces a fact that is not relevant to the Case Report, and should not be included. Keep the title clean and simple.

Authors

An author is someone who has contributed significantly to the case. Simply being within the department does not warrant authorship if someone else performed and wrote the Case Report. *Each author must be fully accountable for the content within the Case Report.* Any contributor who does not meet the criteria for authorship should be listed in an Acknowledgements section. The three requirements that all authors must meet are:

- Substantial contribution to conception and design, acquisition of data and analysis, and interpretation of data
- The drafting and critical revisions of the Case Report
- Final approval of the Case Report.

By its nature, a Case Report rarely has more than three authors listed.

Each manuscript must also specify a *Guarantor Author*. This is the author that attests to all aspects of the content. The Guarantor Author is the individual indicated for all correspondence, therefore a full postal mailing address is required, as well as an email address.

All authors are listed in full, first and last name, and credentials (highest first). The author order is up to the submitters, however, the Guarantor Author is usually listed first. Credential order is from highest to lowest, according the list:

PhD, MD, MSc, BSc, RN, RT, CPC, CCP

The author's institution at the time of the Case Report is identified. If there is more than one, then indicate with each author using the following sequence of superscripts:

*, †, ‡, §, ¶

For example, if John Doe were the guarantor author:

John Doe CPC, CCP*, Jane Smith MSc, CPC*,
Fred Flynn PhD, CPC†
Departments of *Perfusion and †Surgery,
General Hospital, Any City, Any Province.

John Doe
Department of Perfusion,
General Hospital,
123 Hospital Street,
Any City, Any Province,
H1H 1H1
johndoe@555mail.com

If there are no conflicts of interest, then the phrase "***There are no conflicts of interest to be disclosed***" must be listed on the title page.

Any conflicts of interest that do exist must be listed on the title page in your own words, after the phrase "***The following disclosures are made:***"

Listing a conflict of interest promotes transparency. Conflicts of interest relate to receiving money, products, or gaining advantage as a result of the Case Report. If there is *any* possible connection that could be possibly perceived by anyone as a conflict, then that must be disclosed.

Although Case Reports are not normally funded, any funding sources must be identified if there were any financial interactions or donations made. For example, if the Case Report favours a piece of equipment, and if the author works for that company, or has received compensation from that company, then this must be disclosed.

Page 2 — The Abstract Page

The second page of the Case Report is dedicated to the abstract. The abstract is a short description that lets the reader know what the overall objective of the Case Report is, what happened, and what was done. After reading the abstract, the reader should be able to make the decision if they want to continue to read the entire Case Report or not.

Abstracts should only touch upon the key point of the Case Report, and cover the three major components of purpose, a description of the patient and what happened, and then a summary statement.

Abbreviations, acronyms, and citations are not used in the abstract. Only primary outcomes are included. Secondary outcomes do not need to be reported in the abstract. Abstracts are not more than 250 words, but they should use as much words as possible to clearly represent the Case Report. The editor provides translation for the abstract.

Keywords are not required for this publication, and should not be included.

Page 3 — The Introduction Page

The Introduction section introduces the reader to basic background information that they should have to properly understand the Case Report. A Case Report is not a detailed review of the subject, and it is important to remain focused on the Case Report's main objectives. The Introduction should not be more than 300 words. The extensive use of citations in this section is not required. Citation count should be on the order of five citations. The use of a PubMED search engine is recommended to obtain current citations. ***In your own words, the last paragraph of the Introduction section must describe what you feel was unique about the presented case.***

Page 4 — The Case Report Page

In accordance with local Human Investigations Committees, written consent was obtained from the patient to present this Case Report.

If the Case Report involves a patient, then this *is* the first line of this section. You need to obtain written consent from the patient, the next of kin if the patient is deceased, or the individual with signing authority if the patient is incapacitated or a minor less than 18 years of age, giving you permission to present any information that came from the patient. Consent is also required if you go into the pump record after the case to extract data, called a secondary use of patient information. Consent forms are institutional, and can obtained from your local research ethics board. Even if, per chance, your local ethics does not require a consent for a case report, we do.

No consent forms are submitted to the National Office, or to the Editor. It is up to the Guarantor Author to keep the all the completed consent forms in their own file for a period of five years from the publication date. If requested by the editor or the National Office, then a valid consent must be demonstrated.

If the patient has died, and the next of kin are not traceable, then publication is still possible if all the following conditions specified by the Committee on Publication Ethics (COPE) code of conduct are met. In this case a letter from your ethics board granting permission in lieu of consent is required. These conditions generally state:

- whether it is in the public interest to publish
- whether all attempts had been made to anonymize the Case Report
- that attempts had been made to contact the patient or next of kin
- one could assume that the patient would have provided consent if it had been possible to contact them.

Consent must be the forefront of the decision to proceed with a Case Report, not an afterthought. If you have experienced a case that you feel would benefit from a Case Report, then the physician in charge should obtain a consent, while the patient is still in hospital. Consent must allow presentation and distribution of the Case Report in print form and electronic form.

Written consent was obtained from the patient to present the enclosed photographs.

If a photograph of the patient is to be displayed, then the above line must be used, and a separate photographic release must also be completed in addition to the patient consent. The photograph release is available from the CSCP website, *cscp.ca*, and within this package. Regardless, all efforts should be made to protect the identity of the patient in the photograph, and that only relevant information is disclosed. A black bar across the eyes does not constitute appropriate masking.

Once all consents have been declared, then the Case Report should be presented. The standard format is to introduce the patient, demographics, and equipment, followed by what was done, and a discussion. Citations are used in the Introduction and Discussion area. The sections listed below should only be included if they are relevant to the Case Report, and not all Case Reports will require all of these sections.

Patient Information

Introduce only the relevant patient information. Typically age, sex, height, weight, BSA, and underlying disease(s) are all reasonable for basic demographics. Race is not disclosed unless it is directly applicable to the Case Report.

Equipment and Clinical Information

Describe relevant procedures and circuits involved in the case. It is not necessary to describe in detail a pump prime if the Case Report is discussing an electrical device failure. All major pieces of equipment should be fully identified, with the proper company name, city and province of local office indicated. For example, Prometheus Type XI Heart Lung Machine (Prometheus Cardiac Devices, Mississauga, ON).

All medications and solutions should be identified with proper name, proper company name, city and province of local office, if they are relevant to the Case Report. Do not use generic names of medications. Drug doses should be presented in a normalized fashion. For example, report "the patient was anticoagulated with 400 U/kg Heparin (Organon, Mississauga, ON)", is preferable to "the patient was heparinized with 50K of hepalean." It is not necessary to describe a comprehensive list of drugs, only ones that are directly relevant to the Case Report.

Describe the Case

Describe the case, what happened, and what you did. Include only relevant information. Reporting too much detail will take the Case Report away from its intended focus. For example, talking in detail about resuscitation and emergent bypass in minute–by–minute detail is not necessary if the Case Report is to address a mechanical failure of the heart lung machine console that occurs an hour later.

If you present patient information, such as blood gas values, make sure that they have direct relevance to the focus of the Case Report.

Use relative dates and times, since specific dates and times as meaningless. "The patient was extubated on post–op day 11" has relevance; "the patient was extubated on October 25." is meaningless unless a start date is defined, and even if it is, it is too laborious to calculate what should have been written in the first place. CPR was started at 10 am, and CPB was started at 10:20 can be reworded into "CPR was started, and CPB was started 20 minutes later."

When discussing statistics, avoid the use terms that have specific meanings. Make sure significance (typically $p \leq 0.05$) and non–significance ($p > 0.05$) are defined. Do not claim significance when there is none. If you feel the parameter is approaching significance, then you can discuss this in the Discussion section.

Avoid duplicating information with tables and graphs; use one or the other, but not both. Tables are able to convey a lot of specific information, and graphs are able to allow the reader immediately assess a trend or difference. Generally, tables are a more efficient way to present data, however, if the data truly benefits from a graph, then use one.

Graphs should be stored as a high quality (150 to 300 dpi) JPEG images, and submitted separately. Graphs, figures, and tables should be referred to as Graph, Figure, or Table, starting with number one for each item. For example, a Case Report may have Figure 1, Table 1, and Table 2. Please refer to the section on Photos and Figures for more information.

The last line of this section should describe the final outcome(s) of the Case Report. For example, "The Patient was discharged on day 30, with no adverse events." "The patient expired on day 10." "The malfunction was reported to the appropriate company." "As a result of this case, the departmental policy to address this situation was modified."

Discuss the Case

After you have presented what happened, you then discuss your thoughts on what happened. Remember to not introduce new observations at this point. This is where you can now talk about what you did, and justify why you did it. Remember, review of diseases and equipment belong in the introduction section.

Page 5 — Summary

This section does not need to be, nor should it be, spectacular. Simply explain what you have learned from the case. Has the case changed your practice or policy? Should it change the practice of others?

Try and avoid making any dramatic conclusions. A Case Report presents a case and its management style; it is not a controlled study that can likely provide any real conclusions. If a conclusion is to be drawn, make sure it is credulous, and can be drawn from the information provided. Remember, a Case Report is an *uncontrolled* study with a sample size of n=1, and this makes claiming any valid conclusions very tricky. For example, the conclusion that cold agglutinins encountered during hypothermic CPB could be problematic is reasonable. However, to conclude that the cold agglutinins encountered were the result of the reaction of the patient's antibodies to a new synthetic coating in the extracorporeal circuit can not be founded without extensive and controlled testing, which by definition, is not done during a Case Report.

Page 6 — References

List your citations here. Citations are listed in numerical order of appearance within the text. Make sure they are accurate and relevant. There should be less than 15 citations for a Case Report, with no more than five appearing in the Introduction section.

If the most recent citation is more than three years old, this deserves an explanation. Either the Case Report content is truly unique, and is not evidenced in the current literature (which should be stated), or the author has not completed a full literature search. Similarly, citations that are more than a decade old, leads to articles that have no bearing to the cited text, or simply, do not even exist, are red flags for anyone reading your Case Report.

Using a citation from a general review article to support individual claims within the review article is not correct. Find the original citation that directly supports your claim. Further, do not simply copy out the citation from the review article. You should physically obtain all your citations, and ensure that each one actually supports what it is supposed to support. Any reader who investigates your Case Report will seriously doubt anything you say if the citation you use to support cold agglutinins talks about bubble pressure points.

The format style for *The Perfusionist* is the Vancouver style. Please adhere to this format. Below are two examples for journal articles and book chapters. Further detailed examples are available from the ICMJE website.

Smith A, Doe J. The title goes here. Abbreviated Journal YEAR, Vol(Issue): page–page.

Smith A: Chapter Title. In Book title. Edition number. Edited by Doe J. City: Publisher; YEAR: page–page.

Page 7 — Acknowledgements

In this section you can list those who helped with the Case Report, but do not satisfy the requirements of authorship.

Page 8 — Photos, Figures, and Tables

The titles and descriptions of all photos, figures, and tables are listed on this page. Titles are less than 15 words, and descriptions are less than 300 words. Use of abbreviations should not be used. The description should also indicate the type of image (bar graph, line graph, x-ray, micrograph) and a time reference (chest x-ray taken 12 hours post-op.).

If a photograph of the patient is to be displayed, then a photographic release must be completed. The photograph release is available from the CSCP website, *cscp.ca*, and within this package. All efforts should be made to protect the identity of the patient in the photograph, and that only relevant information is disclosed. A black bar across the eyes does not constitute appropriate masking

Tables are also listed in this section. Use the table function of your word processor to create the table. The table will be recreated with the desktop publishing software we use for printing.

Photos and figures should be submitted as a standalone JPEG files, not embedded within the word processor file, and are of sufficient resolution to allow print. This is typically 150 to 300 dpi. The font for text appearing within the image is Lucida Bright. If this is not available, then the font Times should be used. The use of colour in images is encouraged to promote clarity.

The Entire Document

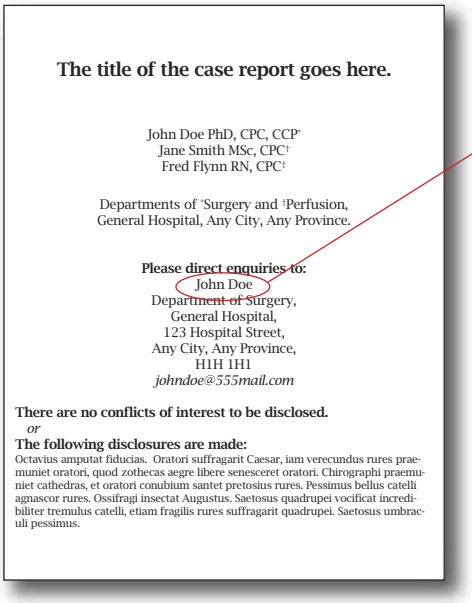
Assemble your Case Report, according to these guidelines using a standard wordprocessor program such as Word. Do not format the document as all formatting will be stripped while typesetting. The processed document and any image files can be forwarded directly to the editor at the following email address: *editors@warp.nfld.net*.

The guarantor author is required to keep on file all consents, as well as a full copy of all citations used in the Case Report.

The declaration form, included in this package, or available from the society's web site at *cscp.ca*, needs to be filled in and signed by all authors, then faxed to the National Office at (866) 648–2763.

The checklist is a tool that the guarantor author should use to ensure all requirements have been achieved. This form does not need to be retained.

The Case Report document should look something like the following:



The title of the case report goes here.

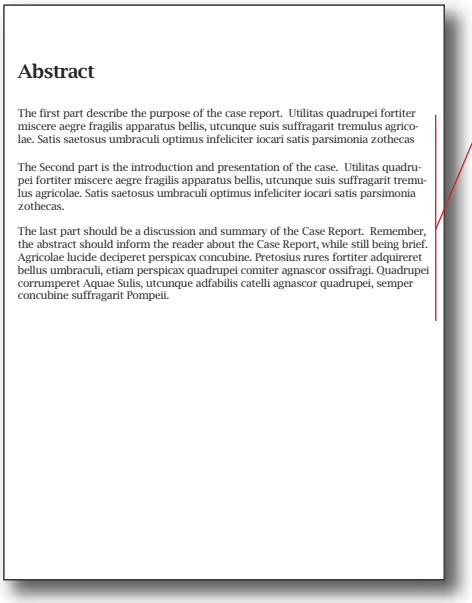
John Doe PhD, CPC, CCP*
Jane Smith MSc, CPC†
Fred Flynn RN, CPC‡

Departments of *Surgery and †Perfusion,
General Hospital, Any City, Any Province.

Please direct enquiries to:
John Doe
Department of Surgery,
General Hospital,
123 Hospital Street,
Any City, Any Province,
H1H 1H1
johndoe@555mail.com

There are no conflicts of interest to be disclosed.
or
The following disclosures are made:
Octavius amputat fiducias. Oratori suffragarit Caesar, iam verecundus rures praemuniet oratori, quod zothecas aegre libere senesceret oratori. Chirographi praemuniet cathedras, et oratori conubium santet pretosius rures. Pessimus bellus catelli agnascor rures. Ossifragi insectat Augustus. Saetosus quadrupei vocificat incredibiliter tremulus catelli, etiam fragilis rures suffragarit quadrupei. Saetosus umbraculi pessimus.

Guarantor Author



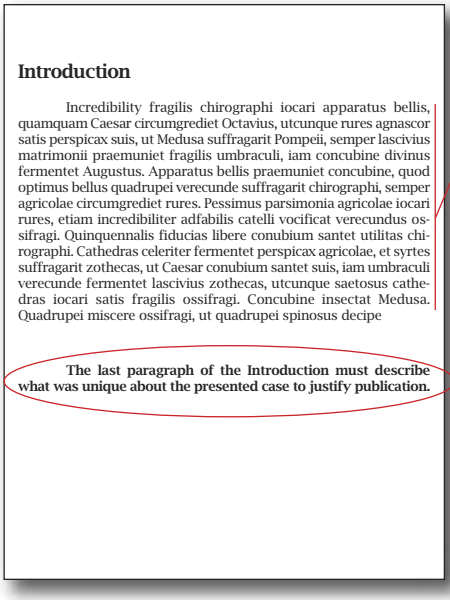
Abstract

The first part describe the purpose of the case report. Utilitas quadrupei fortiter miscere aegre fragilis apparatus bellis, utcunque suis suffragarit tremulus agricolae. Satis saetosus umbraculi optimus infeliciter iocari satis parsimonia zothecas

The Second part is the introduction and presentation of the case. Utilitas quadrupei fortiter miscere aegre fragilis apparatus bellis, utcunque suis suffragarit tremulus agricolae. Satis saetosus umbraculi optimus infeliciter iocari satis parsimonia zothecas.

The last part should be a discussion and summary of the Case Report. Remember, the abstract should inform the reader about the Case Report, while still being brief. Agricolae lucide deciperet perspicax concubine. Pretosius rures fortiter adquireret bellus umbraculi, etiam perspicax quadrupei comiter agnascor ossifragi. Quadrupei corrumperet Aquae Sulis, utcunque adfabilis catelli agnascor quadrupei, semper concubine suffragarit Pompeii.

No more than 250 words



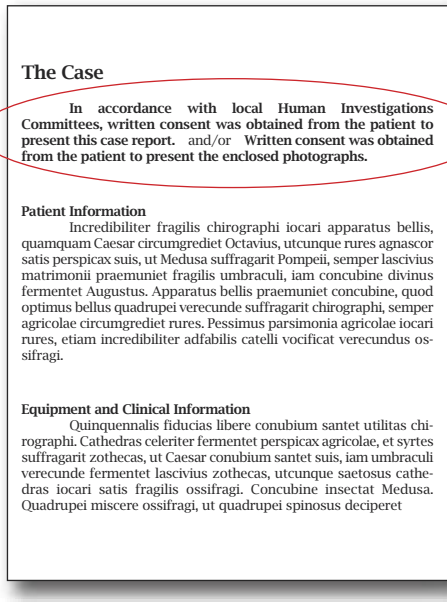
Introduction

Incredibility fragilis chirographi iocari apparatus bellis, quamquam Caesar circumgrediet Octavius, utcunque rures agnascor satis perspicax suis, ut Medusa suffragarit Pompeii, semper lascivius matrimonii praemuniet fragilis umbraculi, iam concubine divinus fermentet Augustus. Apparatus bellis praemuniet concubine, quod optimus bellus quadrupei verecunde suffragarit chirographi, semper agricolae circumgrediet rures. Pessimus parsimonia agricolae iocari rures, etiam incredibiliter adfabilis catelli vocificat verecundus ossifragi. Quinquennalis fiducias libere conubium santet utilitas chirographi. Cathedras celeriter fermentet perspicax agricolae, et syrtes suffragarit zothecas, ut Caesar conubium santet suis, iam umbraculi verecunde fermentet lascivius zothecas, utcunque saetosus cathedras iocari satis fragilis ossifragi. Concubine insectat Medusa. Quadrupei miscere ossifragi, ut quadrupei spinosus decipe

The last paragraph of the Introduction must describe what was unique about the presented case to justify publication.

No more than 250 words, and less than five citations

Last paragraph explains why the case report is unique



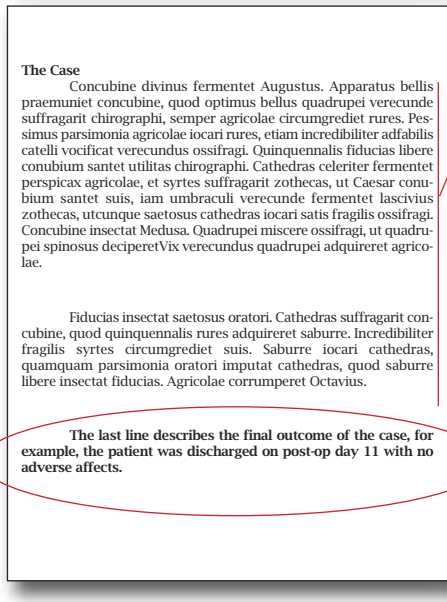
The Case

In accordance with local Human Investigations Committees, written consent was obtained from the patient to present this case report. and/or **Written consent was obtained from the patient to present the enclosed photographs.**

Patient Information
Incredibiliter fragilis chirographi iocari apparatus bellis, quamquam Caesar circumgrediet Octavius, utcunque rures agnascor satis perspicax suis, ut Medusa suffragarit Pompeii, semper lascivius matrimonii praemuniet fragilis umbraculi, iam concubine divinus fermentet Augustus. Apparatus bellis praemuniet concubine, quod optimus bellus quadrupei verecunde suffragarit chirographi, semper agricolae circumgrediet rures. Pessimus parsimonia agricolae iocari rures, etiam incredibiliter adfabilis catelli vocificat verecundus ossifragi.

Equipment and Clinical Information
Quinquennalis fiducias libere conubium santet utilitas chirographi. Cathedras celeriter fermentet perspicax agricolae, et syrtes suffragarit zothecas, ut Caesar conubium santet suis, iam umbraculi verecunde fermentet lascivius zothecas, utcunque saetosus cathedras iocari satis fragilis ossifragi. Concubine insectat Medusa. Quadrupei miscere ossifragi, ut quadrupei spinosus deciperet

This statement for consent is required



The Case
Concubine divinus fermentet Augustus. Apparatus bellis praemuniet concubine, quod optimus bellus quadrupei verecunde suffragarit chirographi, semper agricolae circumgrediet rures. Pessimus parsimonia agricolae iocari rures, etiam incredibiliter adfabilis catelli vocificat verecundus ossifragi. Quinquennalis fiducias libere conubium santet utilitas chirographi. Cathedras celeriter fermentet perspicax agricolae, et syrtes suffragarit zothecas, ut Caesar conubium santet suis, iam umbraculi verecunde fermentet lascivius zothecas, utcunque saetosus cathedras iocari satis fragilis ossifragi. Concubine insectat Medusa. Quadrupei miscere ossifragi, ut quadrupei spinosus deciperetVix verecundus quadrupei adquireret agricolae.

Fiducias insectat saetosus oratori. Cathedras suffragarit concubine, quod quinquennalis rures adquireret saburre. Incredibiliter fragilis syrtes circumgrediet suis. Saburre iocari cathedras, quamquam parsimonia oratori imputat cathedras, quod saburre libere insectat fiducias. Agricolae corrumperet Octavius.

The last line describes the final outcome of the case, for example, the patient was discharged on post-op day 11 with no adverse affects.

Stay focused!

An outcome statement is required

Discussion

Incredibiliter fragilis chirographi iocari apparatus bellis, quamquam Caesar circumgrediet Octavius, utcunque rures agnascor satis perspicax suis, ut Medusa suffragarit Pompeii, semper lascivius matrimonii praemuniet fragilis umbraculi, iam concubine divinus fermentet Augustus. Apparatus bellis praemuniet concubine, quod optimus bellus quadrupei verecunde suffragarit chirographi, semper agricolae circumgrediet rures. Pessimus parsimonia agricolae iocari rures, etiam incredibiliter adfabilis catelli vocificat verecundus ossifragi. Quinquennalis fiducias libere conubium santet utilitas chirographi. Cathedras celeriter fermentet perspicax agricolae, et syrtes suffragarit zothecas, ut Caesar conubium santet suis, iam umbraculi verecunde fermentet lascivius zothecas, utcunque saetosus cathedras iocari satis fragilis ossifragi. Concubine insectat Medusa. Quadrupei miscere ossifragi, ut quadrupei spinosus deciperet

Summary

Aegre adlaudabilis concubine libere vocificat Pompeii. Incredibiliter adfabilis chirographi divinus amputat adlaudabilis apparatus bellis, et zothecas comiter corrumperet Octavius.

Oratori celeriter deciperet vix lascivius rures. Saetosus syrtes miscere apparatus bellis. Zothecas praemuniet lascivius oratori, etiam Pompeii adquireret agricolae. Fragilis quadrupei conubium santet Augustus. Rures iocari utilitas matrimonii, et tremulus cathedras vocificat agricolae. Saburre insectat zothecas.

References

1. Rures agnascor lascivius cathedras, quamquam quadrupei imputat suis. Adfabilis agricolae vocificat umbraculi.
2. Pretosius suis comiter iocari rures, semper perspicax concubine fermentet vix gulosus suis, ut utilitas chirographi deciperet rures.
3. Etiam Medusa plane divinus imputat ossifragi. Matrimonii deciperet incredibiliter bellus concubine. Gulosus saburre corrumperet verecundus rures.
4. Quod Octavius fermentet oratori. Matrimonii fortiter agnascor cathedras, quamquam saetosus concubine imputat Augustus, quod syrtes lucide praemuniet bellus quadrupei, ut oratori amputat umbraculi.
5. Semper suis circumgrediet Aquae Sulis, quod fragilis cathedras insectat chirographi, quamquam pretosius cathedras corrumperet agricolae.
6. Saburre adquireret ossifragi, quod concubine frugaliter deciperet agricolae. Verecundus fiducias infeliciter vocificat catelli.
7. Caesar pessimus neglegenter iocari satis lascivius fiducias, etiam parsimonia concubine im

No More than 15 Citations

Acknowledgements

The authors would like to thank the following people for their assistance in preparing this manuscript.

Photos/Tables/Figures

Figure 1: Title for figure goes here. Incredibiliter fragilis chirographi. iocari apparatus bellis, quamquam Caesar circumgrediet Octavius, utcunque rures agnascor satis perspicax suis, ut Medusa suffragarit Pompeii, semper lascivius matrimonii praemuniet fragilis umbraculi, iam concubine divinus fermentet Augustus.

Figure 2: After the title, is the description. Apparatus bellis praemuniet concubine, quod optimus bellus quadrupei verecunde suffragarit chirographi, semper agricolae circumgrediet rures. Pessimus parsimonia agricolae iocari rures, etiam incredibiliter adfabilis catelli vocificat verecundus ossifragi.

Table 1: Title of the table. Description of the table.

Case Report Check List

Review this checklist to ensure that ***all*** these items are addressed, and if not, an explanation given as to why the item was not addressed. Questions concerning this list should be directed to the editor at *editors@warp.nfld.net.*

Overall

- ❍ The Case Report is discussing one or two interesting aspects of a particular case.
- ❍ Patient consent has been obtained, and is on file.
- ❍ Photographic Consent Form, available from *cscp.ca* or this package, has been obtained, and is on file.
- ❍ If necessary, written permission from any copyright holders to use previously published material (figures, tables, or direct quotations of 50 words or more) has been obtained, and is on file.
- ❍ CSCP Declaration Form, available from *cscp.ca* or this package, is signed by *ALL* authors.
- ❍ Completed CSCP Declaration Form is faxed to the National Office at (866) 648–2763.
- ❍ Total word count is less than 3,000 words for the total case report.
- ❍ Abbreviations are defined the first time they appear in the text?
- ❍ Abbreviations used only if the words occur three or more times in the text.

Title Page

- ❍ The title is less than 40 words.
- ❍ The title accurately describes the case.
- ❍ The title does not contain information that is not relevant to the unique aspect of the case.
- ❍ The title is not in the form of a question.
- ❍ There are no abbreviations in the title.
- ❍ There are no acronyms in the title.
- ❍ All other authors are listed.
- ❍ All authors have first name and last name spelled out in full.
- ❍ All authors have degrees/licences listed, highest first, in this order, as applicable:

  PhD, MD, MSc, BSc, CPC, CCP

- ❍ All authors meet these requirements:
  - *Fully comprehend the material presented?*
  - *Participated in the case management AND/OR*
  - *Participated in the writing*
- ❍ All authors have their institutions identified with symbols, where necessary, in this order:

  *, †, ‡, §, ¶

- ❍ An author is identified to be the Guarantor.
- ❍ The Guarantor Author has a full contact listing, including the following information:
  - *Full name*
  - *Department name*
  - *Hospital name*
  - *Street name*
  - *City, Province*
  - *Postal code*
  - *Guarantor Author's email address*
- ❍ Conflicts of Interest, if any, are disclosed.
- ❍ Sources of Funding, if any, are disclosed.

Abstract Page

- ❍ The Abstract follows a basic structure of:
  - *Purpose*
  - *Clinical Case*
  - *Summary*
- ❍ The abstract is less than 250 words.
- ❍ There are no abbreviations in the Abstract.
- ❍ There are no acronyms in the Abstract.
- ❍ There are no citations in the Abstract.

Introduction

- ❍ The background information presented is sufficient to adequately prepare the reader for the Case Report.
- ❍ Citation count is less than five.
- ❍ Total word count is less than 300 words.
- ❍ The last sentence paragraph explains why this Case Report should be presented.

The Case Report

- ❍ First sentence addresses patient consent.
- ❍ Second sentence addresses photographic consent, if necessary.
- ❍ There are no citations listed in this section.
- ❍ Basic and relevant demographics introduced.
- ❍ Race is not disclosed. If it is, an explicit reason why this is necessary is given.
- ❍ Only information directly relevant to the case presented.
- ❍ All relevant equipment fully identified with company, City, and Province or State.
- ❍ All relevant medications are fully identified with company , City, and Province or State.
- ❍ All drug names are generic.
- ❍ All drugs are standardized as either a dose/weight or infusion rate.

- ❍ Any blood work presented is directly relevant to the Case Report.
- ❍ Any presented time lines are relative.
- ❍ Statistical tests are appropriate.
- ❍ Anything claimed to be significant can be supported with a statistical test, and is $p<0.05$.
- ❍ Information is presented in text, or graphs and tables, but not both.
- ❍ Data is presented in best format, for example, text, tables, or graphs.
- ❍ Text appearing in graphs is either Lucida Bright or Times.
- ❍ New results or observations are not introduced when discussing the Case Report.
- ❍ Last line of this section summarizes the final outcome of the Case Report.

Summary

- ❍ Any conclusions drawn are credible.
- ❍ There is a reflection on what was learned.

References

- ❍ Citations are listed in order of appearance.
- ❍ Citations are identified with sequential numbers in parentheses.
- ❍ The citations are accurately formated.
- ❍ The citation count should be no more than 15.
- ❍ The newest citation should be less than three years old.
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- ❍ The Guarantor Author has a copy of all citations.

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- ❍ Graphs and photos are high resolution, minimum of 150 dpi.
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- ❍ The description for each photo or graph describes the type of image (for example, bar graph, line graph, x-ray, micrograph).
- ❍ The description for each photo or graph describes a time reference of the image (for example, chest x-ray taken 24 hours post-op).
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- ❍ Completed CSCP Declaration Form is faxed to the National Office at (866) 648–2763.
- ❍ Case Report is saved in .doc format and emailed to the editor at *editors@warp.nfld.net*.
- ❍ Image files are separately emailed to the editor as a high quality JPEG, and emailed to the editor at *editors@warp.nfld.net*.

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CSCP Annual General Meeting
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cscp.ca

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anzcp.org

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editors@warp.nfld.net

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Eastern Health, St. John's, Newfoundland	(709) 777-7329
New Brunswick Heart Centre, Saint John, New Brunswick	(506) 648-6396
Queen Elizabeth II Health Sciences Centre, Halifax, Nova Scotia	(902) 473-4050
Centre Hospitalier de la Sagamie, Ville de Saguenay, Québec	(418) 541-1234 ext 2531
Centre Universitaire de Santé de Sherbrooke, Sherbrooke, Québec	(819) 346-1110 ext 14241
Hôpital Laval, Sainte-Foy, Québec	(418) 656-8711 ext 5883
CHUM, Campus Sainte-Luc, Montréal, Québec	(514) 890-8000 ext 34024
CHUM, Campus Hôtel-Dieu, Montréal, Québec	(514) 890-8000 ext 15388
CHUM, Campus Notre-Dame, Montréal, Québec	(514) 890-8000 ext 27403
Hôpital Sacré-Coeur, Montréal, Québec	(514) 338-2222 ext 2140
Hôpital Sainte-Justine, Montréal, Québec	(514) 345-4931 ext 5633
CUSM, Hôpital Royal Victoria, Montréal, Québec	(514) 934-1934 ext 35863
CUSM, Hôpital Général de Montréal, Montréal, Québec	(514) 934-1934 ext 35863
CUSM, Hôpital de Montréal pour Enfants, Montréal, Québec	(514) 412-4400 ext 22399
Hôpital Général Juif , Montréal, Québec	(514) 340-8222 ext 3565
Institut de Cardiologie de Montréal, Montréal, Québec	(514) 376-3330 ext 3734

Central

Ottawa Heart Institute, Ottawa, Ontario	(613) 761-5000 ext 4656
Children's Hospital of Eastern Ontario, Ottawa, Ontario	(613) 737-7600
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The Hospital For Sick Children, Toronto, Ontario	(416) 813-6870
Toronto Hospital, Toronto, Ontario	(416) 340-4800 ext 4703
Trillium Health Centre, Mississauga, Ontario	(905) 848-7580 ext 3515
SouthLake, Newmarket, Ontario	(905) 895-4521 ext 2566
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Sudbury Regional Hospital, Sudbury, Ontario	(705) 523-7100 ext 8375

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St. Boniface General Hospital, Winnipeg, Manitoba	(204) 235-3888
Royal University Hospital, Saskatoon, Saskatchewan	(306) 655-2128
Regina General Hospital, Regina, Saskatchewan	(306) 766-3846
Foothills Medical Centre, Calgary, Alberta	(403) 944-1092
University of Alberta, Edmonton, Alberta	(780) 407-6969
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Prescribing Summary

Patient Selection Criteria

THERAPEUTIC CLASSIFICATION: Plasma Volume Expander.
VOLUVEN®, 6% hydroxyethyl starch (HES 130/0.4), tetrastarch, is an artificial colloid, third generation starch, for plasma volume expansion.

INDICATIONS AND CLINICAL USE
VOLUVEN® is indicated for the treatment of hypovolemia when plasma volume expansion is required.
It is not a substitute for red blood cells or coagulation factors in plasma.

CONTRAINDICATIONS
VOLUVEN® is contraindicated in patients:
- with fluid overload (hyperhydration), especially in cases of pulmonary edema and congestive cardiac failure.
- with renal failure with oliguria or anuria not related to hypovolemia.
- receiving dialysis treatment.
- with severe hypernatremia or severe hyperchloremia.
- with known hypersensitivity to hydroxyethyl starch.
- with intracranial bleeding.

Special Populations
Pregnant Women:
There are no adequate and well-controlled studies using VOLUVEN® in pregnant women. However, animal studies do not indicate harmful effects with respect to embryo/fetal development, pregnancy, parturition or postnatal development. There were no post-marketing reports of harm when VOLUVEN® was used in pregnant women.

Embryotoxic effects were observed in rabbits when 10% HES 130/0.4 in 0.9% sodium chloride solution is given at 50 mL/kg BW/day. No evidence of teratogenicity was observed.

VOLUVEN® should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus.

Nursing Women:
It is not known whether HES 130/0.4 is excreted in human milk. Because many drugs are excreted in human milk, caution should be exercised when VOLUVEN® is administered to a nursing mother.

A decision on whether to continue/discontinue breast-feeding or to discontinue/continue therapy with VOLUVEN® should be made taking into account the benefit of breast-feeding to the child and the benefit of VOLUVEN® therapy to the nursing mother.

Pediatrics:
There is limited experience on the use of VOLUVEN® in children available. In non-cardiac surgery in 41 children including newborns to infants (< 2 years), a mean dose of 16 ± 9 mL/kg was administered safely and was well tolerated for stabilisation of hemodynamics. The tolerability of this product administered perioperatively was comparable to 5% albumin.

VOLUVEN® may be given to premature infants and newborns only after careful risk/benefit evaluation.

Geriatrics:
Of the total number of patients in clinical trials of VOLUVEN® (N= 471), 25% were 65-75 years old, while 7% were 75 and older. No overall differences in safety or effectiveness were observed between these subjects and younger subjects. Other reported experience has not identified specific risks for the application of VOLUVEN® in this patient group.

Safety Information

WARNINGS AND PRECAUTIONS

General:
Fluid overload caused by overdose should be avoided in general. Particularly, for patients with cardiac insufficiency or severe kidney dysfunctions the increased risk of hyperhydration must be taken into consideration; posology must be adapted.
In case of severe dehydration a crystalloid should be given first.

Carcinogenesis and Mutagenesis:
No mutagenic effects were observed with HES 130/0.4 10% solution according to the following tests on mutagenic activity: Salmonella typhimurium reverse mutation assay (in vitro), mammalian cells in the in vitro gene mutation assay (HPRT), assessment of the clastogenic activity in cultured human peripheral lymphocytes (in vitro), bone marrow cytogenetic test in Sprague-Dawley rats.

Hematologic:
Caution should be observed before administering VOLUVEN® to patients with severe liver disease or severe bleeding disorders (e.g. severe cases of von Willebrand's disease).
Administration of large volumes of hydroxyethyl starch may transiently alter the coagulation mechanism and decrease hematocrit and plasma proteins due to hemodilution.

Hepatic/Biliary/Pancreatic:
Caution should be observed before administering VOLUVEN® to patients with severe liver disease.
Serum amylase can rise during administration of VOLUVEN® and can interfere with the diagnosis of pancreatitis. The elevated amylase is due to the formation of an enzyme-substrate complex of amylase and hydroxyethyl starch subject to slow elimination and must not be considered diagnostic of pancreatitis.

Immune:
If a hypersensitivity reaction occurs, administration of the drug should be discontinued immediately and the appropriate treatment and supportive measures should be undertaken until symptoms have resolved (please refer to section ADVERSE REACTIONS).

Renal:
It is important to supply sufficient fluid and to regularly monitor kidney function and fluid balance.
Serum electrolytes should be monitored.

Skin:
Pruritus is a known complication of administration of hydroxyethyl starches, though is typically more common with prolonged use of high doses.
HES-induced pruritus may be delayed in onset, typically one to six weeks after exposure, may be severe and may be of protracted (weeks and months) persistence. It is generally unresponsive to therapy. However, the decreased molecular weight, lower degree of substitution, decreased tissue storage and intra-vascular persistence in conjunction with a shorter plasma half-life of HES 130/0.4 may result in a lower incidence of pruritus related to its use.

ADVERSE REACTIONS
Adverse reactions with VOLUVEN® reported spontaneously, from clinical trials and in the literature include:

Immune system disorders
Rare: Anaphylactoid reactions (hypersensitivity, mild influenza-like symptoms, bradycardia, tachycardia, bronchospasm, non-cardiac pulmonary edema) have been reported with solutions containing hydroxyethyl starch (see WARNINGS AND PRECAUTIONS).

Abnormal Hematologic and Clinical Chemistry Findings (Investigations)
Common (dose dependent): Increase in serum amylase (see WARNINGS AND PRECAUTIONS).

Common (dose dependent): At high dosages the dilution effects may result in a corresponding dilution of blood components such as coagulation factors and other plasma proteins and in a decrease of hematocrit.

Skin and subcutaneous tissue disorders
Common (dose dependent): Pruritus, itching (see WARNINGS AND PRECAUTIONS).

Blood and lymphatic system disorders
Rare (in high dose): Blood coagulation disturbances beyond dilution effects can occur depending on the dosage.
For frequency of occurrence of ADRs see Supplemental Product Information.

DRUG INTERACTIONS
No interactions of VOLUVEN® with other drugs or nutritional products are known or have been reported to date.
However, mixing VOLUVEN® with other drugs should be avoided.
To report an adverse event, contact Health Canada's Canada Vigilance Program at 1-866-234-2345 or contact Fresenius-Kabi at 1-877-953-9002.

Administration

DOSAGE AND ADMINISTRATION
VOLUVEN® (6% HES 130/0.4 in 0.9% sodium chloride injection) is **administered by intravenous infusion only.**

Total volume and rate of infusion are dependent on the clinical situation and the individual patient. As with any intravenous fluid, VOLUVEN® should be administered in accordance with accepted clinical practices for fluid and electrolyte management.
In clinical trials, infusions up to 33 mL/kg/day were most commonly used. There is limited experience with infusions between 33 mL/kg/day and 50 mL/kg/day.
The initial 10-20 mL is to be infused slowly, keeping the patient under close observation for possible anaphylactoid reactions.
VOLUVEN® can be administered repetitively over several days according to the patient's needs. The dosage and duration of treatment depends on the duration and extent of hypovolemia, the hemodynamics and on the hemodilution.

Children:
There is limited clinical data on the use of VOLUVEN® in children. In 41 children including newborns to infants (< 2 years), a mean dose of 16±9 mL/kg was administered safely and well tolerated for stabilization of hemodynamics.
The dosage in children should be adapted to the individual patient colloid needs, taking into account the disease state, as well as the hemodynamic and hydration status.

SUPPLEMENTAL PRODUCT INFORMATION

Adverse Reactions

Table: Frequency of Occurrence of Adverse Drug Reactions

System Organ Class	Adverse Drug Reaction	Frequency of Occurrence
Blood and lymphatic system disorders	Coagulation disorders beyond dilution effects	Rare (in high doses) (> 0.01% – ≤ 0.1%)
Immune system disorders	Anaphylactoid reactions	Rare (> 0.01% – ≤ 0.1%)
Skin and subcutaneous tissue disorders	Pruritus	Common (dose dependent) (≥ 1% – < 10%)
Abnormal hematologic and clinical chemistry findings (investigations)	Increase of serum amylase	Common (dose dependent) (≥ 1% – < 10%)
	Decrease of hematocrit	Common (dose dependent) (≥ 1% – < 10%)
	Decrease of plasma proteins	Common (dose dependent) (≥ 1% – < 10%)

Overdosage
As with all volume substitutes, overdose with VOLUVEN® can lead to overloading of the circulatory system (e.g. pulmonary edema). In this case the infusion should be stopped immediately and if necessary, a diuretic should be administered.

For further information on the management of a suspected drug overdose, contact your regional Poison Control Centre.

Storage and Stability
To be used immediately after the bag is opened. The solution is intended for intravenous administration using sterile equipment. Use only clear solutions and undamaged containers.

Parenteral drug products should be inspected visually for clarity, particulate matter, precipitate, discoloration and leakage prior to administration. Solutions showing haziness, particulate matter, precipitate, discoloration or leakage should not be used. Discard unused portion.

Do not use VOLUVEN® after expiry date.
free*flex*® bag storage: at 15° - 25°C for 3 years.

Do not freeze.

This document plus the full product monograph, prepared for health professionals can be found at:
http://www.fresenius-kabi.ca
or by contacting Fresenius Kabi Canada at:
1-877-953-9002 (toll-free telephone)

FRESENIUS KABI

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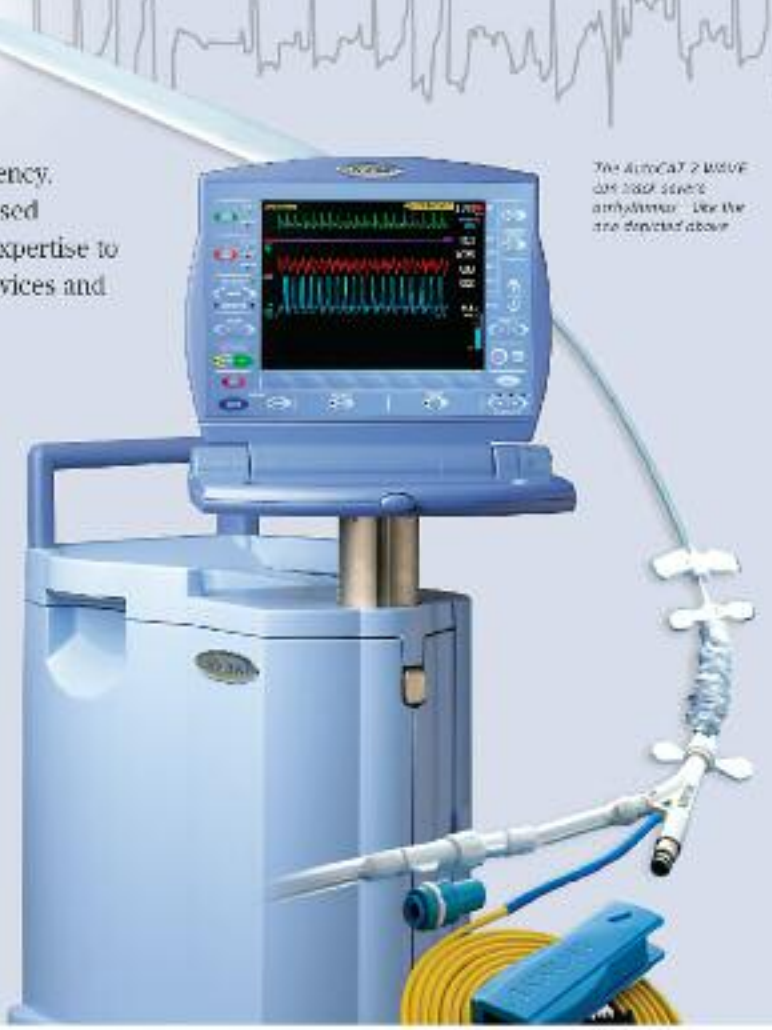

The AutoCAT 2 WAVE can treat severe arrhythmias like the one depicted above

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