

# WSACS — The Abdominal Compartment Society. A Society dedicated to the study of the physiology and pathophysiology of the abdominal compartment and its interactions with all organ systems

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**Key words:** abdominal compartment syndrome; intra-abdominal hypertension; damage control surgery

Anestezjologia Intensywna Terapia 2015, tom XLVII, nr 3, 197–200

## HISTORICAL BACKGROUND

The World Society of the Abdominal Compartment Syndrome (WSACS) has been very productive through scientific collaborations of like-minded researchers, clinicians, and

paramedical personnel since 2004. In the decade since the WSACS's foundation in 2004, the Society has promoted research, fostered education, and improved the survival of critically ill patients suffering from severe intra-abdominal

Należy cytować wersję:

*Kirkpatrick AW, De Waele JJ, De laet I et al.: WSACS — The Abdominal Compartment Society. A Society dedicated to the study of the physiology and pathophysiology of the abdominal compartment and its interactions with all organ systems. Anaesthesiol Intensive Ther 2015; 47: 191–194.*

hypertension (IAH) and Abdominal Compartment Syndrome (ACS). In addition to hosting six international scientific conferences (WCACS), five pre-symposium workshops on IAH and ACS at the International Symposium on Intensive Care and Emergency Medicine (ISICEM), and three European Society of Anaesthesiology (ESA) sister society meetings, the Society has published two dedicated textbooks, highly cited Consensus statements concerning the relevant definitions [1], management [2], and standards for research concerning IAH/ACS [3], as well as produced complete Scientific Supplements published in the *Acta Clinica Belgica* in 2007, the *World Journal of Surgery* in 2009 and the *American Surgeon* in 2011. Further, the Society has followed through on its commitment to keep the science contemporary with updated Consensus statements last year [4].

The mission of the WSACS has been to promote research, foster education, and improve the survival of patients with IAH/ACS. In the most important final realm, that of patient care, success is also notable, although harder to directly attribute directly to the Society. The adoption of the management principles espoused by the WSACS appears to be highly correlated with significant improved survival and cost efficiency [5]. Also associated with less IAH/ACS is a coincident evolution in resuscitation limiting crystalloid volumes and using a high ratio of clotting factors to red blood cells [6, 7] which moderate the amount of crystalloid fluids administered to the critically injured, thus recognizing that excess crystalloid fluids are likely central to many iatrogenic cases of IAH/ACS [8, 9]. Accordingly, recent studies have noticed reduced incidences of open abdomen and ACS [9], as well as higher rates of abdominal closure with the adoption of haemostatic resuscitation [10].

## RECENT ADVANCES

Such success has led some to suggest that the attenuation of overt ACS to less obvious IAH could be considered a success of the preceding decade in trauma care [11, 12]. If the *raison d'être* of the Society is now diminishing as a clinical concern then, should the Society continue its efforts or retire to comfortably enjoy the accolades of an appreciative global medical community?

With that preamble, it should be clearly and boldly stated that the executive of the WSACS does not consider their work done, and in the interest of better patient care globally, we believe our mission is as pertinent, urgent, and relevant as it was in 2004. While ACS is more understood, innumerable questions remain concerning IAH, which remains a nearly ubiquitous factor complicating almost any critical illness or injury to some degree. When sought, its prevalence is as high as 87% in specific patient populations, such as severe acute pancreatitis. While even modest levels of IAH have been documented to significantly influ-

ence organ function [13–15], the same degree of IAH goes unappreciated and unrecognized nearly every day in our ICUs. The reality in 2015 remains that surveys from all over the world still reflect misconceptions, misunderstanding, and ambivalence concerning the active surveillance and treatment of IAH [16–18]. Thus, we believe it is critical that some international society dedicates its efforts to attempting to understand the role of IAH in critical illness/injury. This moral obligation has prompted the WSACS to actually consider adopting the designation of the World Society for the Understanding of Intra-Abdominal Hypertension. Such a renaming would be relevant but it would be insufficient to capture everything pertinent to the abdominal cavity.

The increasing importance of IAH as the primary physiologic problem to be considered comes at the same time as major advances are being made in beginning to understand the epidemiology, anatomy, function and pathophysiology of the abdomen as a complete whole. Considering the abdominal compliance as both a concept and a management principle may advance the understanding of clinical patient variability considering individual responses to IAH [19, 20]. Recently, the magnitude of the burden of disease of abdominal wall failure has been appreciated in both its scope and challenge. The open abdomen (OA) is a dramatic entity fraught with complications that is bewildering to families and new medical trainees alike. However, the use of the OA technique has resulted in improved survivals in critically ill or injured patients [21] and is now part of every surgeon's armamentarium. Despite this acceptance, the Eastern Association for the Surgery of Trauma has stated that there is a void in the knowledge-base concerning the postoperative management of OA patients [22]. Less dramatic, but more of a population concern is the often unappreciated scourge of incisional hernia following laparotomy which, when carefully followed, affects 20% of unselected patients and up to 50% of high risk patients [23–25]. The plethora of techniques to repair these defects and the poor outcomes with repeated procedures all speak to the need to further understand this common failure of the abdominal compartment better.

Another potentially seminal advance has been in the realm of surgical techniques derived from increased attention to abdominal wall anatomy, such as the various tissue component separation techniques that have evolved since Ramirez et al. described them [26–28]. These technical advances, now coupled with advances in tissue recovery and engineering, have resulted in the commercial availability of an array of bioprosthetic meshes that may be complementary to component separation techniques in rebuilding complex abdominal wall defects [29, 30]. Despite the great promise however, many questions remain and much study needs to be done [31, 32].

## FUTURE DIRECTIONS

As the focus concerning ACS becomes less paramount as it becomes less frequent [11, 33], it became even more apparent to the WSACS Executive Committee that the actual name of the Society was limiting in terms of reflecting the true breadth and depth of the Society's mission. From the Society's inception, attention has been paid to the anatomy and clinical management of all stages of IAH/ACS Management, including abdominal reconstruction and long-term outcomes of IAH/ACS survivors. While naming the Society after the ACS emphasized the most dramatic condition to be addressed, it does not reflect upon the full scope of the Society's interests and activities.

Thus, in order to reflect the evolving science and to embrace important concepts related to abdominal wall anatomy and function, the World Society of the Abdominal Compartment Syndrome, has officially changed its name to the WSACS — the World Society of the Abdominal Compartment — or abbreviated, the Abdominal Compartment Society. While there are already other professional associations that consider certain aspects of either the anatomy or pathophysiology of the abdominal cavity, our Society is uniquely dedicated to formally appreciating the abdominal compartment as a whole within all the body's inter-related compartments [34].

## ACKNOWLEDGEMENTS

1. Financial support and sponsorship: Jan J. De Waele is a Senior Clinical Researcher with the Research Foundation Flanders (Belgium).
2. All authors are member of the Executive Committee of the WSACS. Jan De Waele has served as a consultant to Smith&Nephew, and Kinetic Concepts Inc. Mark Kaplan has served as a consultant to Kinetic Concepts Inc. Rao Ivatury has served as a consultant to Kinetic Concepts Inc. Michael Sugrue has served as a consultant to Smith&Nephew, and Kinetic Concepts Inc. Manu LNG Malbrain is member of the medical advisory board of Pulsion Medical Systems (Maquet Getinge group) and consults or has consulted for KCI, ConvaTec and Holtech Medical. For the remaining authors none were declared. AW Kirkpatrick was the PI on an RCT of open abdomen management funded by Acelyty Corp and consulted for Acelyty Corp only AFTER the manuscript was published. AWK has received reimbursement to attend research and cadaver laboratories from the LifeCell and Innovative Trauma Care Corporations

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*Otrzymano: 6.04.2015 r.*  
*Zaakceptowano: 4.05.2015 r.*