Dear Dr DeMaria

The Journal recently published the ACCF / AHA Scientific Statement on the Evaluation of Syncope (‘Statement’) (1). It is understood that this Statement was commissioned to provide clinicians with an overview of the proper approach to the evaluation and treatment of patients who present with ‘syncope’, and that the Statement was not produced as a formal guidelines document. Unfortunately, however, in our opinion the Statement fails to either address adequately, or put in proper perspective, many aspects of syncope management that are important for patient care.

Currently, the Statement in many respects tends to reinforce, rather than illuminate, a number of long-standing clinical errors associated with evaluation of episodes of apparent self-limited loss of consciousness, including syncope. Further, many of the Statement’s messages and conclusions are imprecise, lack balance, and are dated. As such, the Statement fails to provide the thorough, scientifically rigorous, and up-to-date recommendations, expected of important communications bearing the imprimatur of the principal cardiovascular professional societies in North America.

As a group, we recommend that a careful revision of the Statement be undertaken in the very near-term. Although many of the views provided in the current Statement may be the subject of honest differences of opinion, there are oversights and errors that deserve urgent attention. The most important of these are as follows:
1. **Proper definitions are lacking.** The ACCF/AHA Statement should establish the distinction between ‘syncope’ and the broader problem of transient loss of consciousness (TLOC) (2-5). In this regard, a careful definition of syncope should address its unique pathophysiology (i.e., being due to transiently inadequate cerebral blood flow), and how it differs from other forms of TLOC (e.g., concussion due to trauma, epileptic seizures due to a primary neuronal problem, and apparent TLOC such as in conversion disorders).

Failure to reinforce this key difference for clinicians is a common and crucial error (6) found in even very prominent medical writings (7,8). To highlight this point, the Statement as it currently stands does not distinguish with sufficient care that seizures and psychiatric disorders are very different from syncope. It should be also made clear to the reader that psychiatric problems do not really cause true TLOC, although these conditions may be associated with increased susceptibility to neurally-mediated reflex faints (2-5).

Absence of clarity regarding a careful definition of the central topic of the Statement’s interest aggravates longstanding misunderstandings about what is and what is not syncope. The consequences of this error are apparent in the excessive and generally futile overuse of inappropriate medical tests to evaluate ‘syncope’ (9-12). The Statement had an opportunity to rectify this important medical problem; one that leads to unnecessary costs and possible patient harm.

2. **Many contemporary statements and documents are not referenced.** The ACCF/AHA Statement offers as a goal “to summarize the data that direct the evaluation of the patient with syncope”. In this light, it is curious that the authors and reviewers failed to identify and cite either of the two sets of European Society of Cardiology (ESC) Syncope Guideline statements (13,14) published in 2001 and revised in 2004 (a number of the authors of this letter [*] admit a vested interest in the ESC guidelines, having participated in their development). The ESC guidelines were developed following careful assessment of the validity of the existing literature during multiple face-to-face meetings, encouraged active participation from America and Europe, and included a comprehensive reference list. The methodology of the ESC Syncope Task Force assured that the panel of experts was broadly represented and included many experts who have made major contributions to our understanding of syncope. Failure to
acknowledge important efforts by others is inappropriate for such a prominent publication as the Statement, and should be remedied so that readers are alerted to an already existing comprehensive assessment of the state-of-the-art.

3. **A careful and comprehensive analysis of contemporary data is lacking.** Consistent with the goal of providing the best “data” upon which to base clinical decisions, a critical Statement from ACCF/AHA should rely heavily on analyses of data from controlled trials. The Statement, however, overlooked observations obtained from most randomized controlled and/or controlled trials in the field. The data that are presented are selective and not representative of the body of literature and studies that exist. For instance, while the authors cite three ICD trials (15-17) and one drug trial (18), none of which focused primarily on a ‘syncope’ population per se, they only reference a single non-ICD trial that did enroll true syncope patients (19). Further, the authors failed to cite either of the two major North American pacing trials targeting syncope patients (VPS-1 and VPS-2 [20,21]), or the single large beta-blocker trial (POST [22]) the results of which were presented at both the late-breaking clinical trials session of Heart Rhythm Society Scientific sessions and at the Canadian Cardiovascular Society meeting (23) in 2004, or the only trial examining the utility of an organized syncope management unit in a North American hospital (SEEDS [24]). Moreover, the current Statement omits citing any of the several European randomized and/or controlled clinical trials that assessed various aspects of the syncope evaluation, and several of which were published in North American journals. With the exception of the citation of SAFE-PACE (25), many other published clinical trials such as EGSYS (26), OESIL (27) and OESIL2 (28), ISSUE-1 (29-31), ISSUE-2 (32), VASIS (33,34), SYDIT (35), and SYNPACE (36) were neither mentioned nor apparently used to help refine the approach to the TLOC/syncope patient. These studies represent the world's most up-to-date and comprehensive work in the syncope evaluation field. Failure, in an official ACCF and AHA publication to cite important and pertinent recent work substantially detracts from the credibility of the Statement. These oversights need to be corrected.

4. **The primary reason to evaluate and treat syncope is not to prevent death.** According to the Statement, the primary “purpose of the (syncope) evaluation” is “to determine whether the patient is at increased risk for death”. This is a narrow, and incomplete objective. While we agree that mortality risk assessment is a valid concern, the teaching of clinicians and students
should be focused on a more fundamental and comprehensive goal, namely, establishing the cause of the patient’s symptoms with sufficient confidence to assess prognosis and recommend an effective treatment strategy (13,14, 37, 38).

The mortality risk assessment of syncope patients should be put in perspective. The vast majority of these patients have disturbing or disabling conditions that are not life-threatening but may cause both a substantial decrease in quality-of-life and injuries that can be just as severe as those associated with cardiac syncope (2,4,37-41). Physicians need to be knowledgeable in their recognition and treatment of this large number of individuals. Unfortunately, the Statement focused excessively on the mortality aspect of the problem. As noted earlier, 3 of 5 randomized trials cited in the Statement deal with ICD treatment and a fourth deals with heart failure. Additionally, more than half of all the citations deal with structural heart disease and most of these only tangentially relate to syncope. A mere handful of citations deal with the far more common causes of syncope, namely the neurally-mediated reflex syncope syndromes and orthostatic hypotension (4, 13,14, 37-42).

Syncope patients deserve evaluation that goes far beyond the appropriateness of placement of an implantable cardioverter-defibrillator (ICD) that only rarely prevents syncope, or a pacemaker. The physician-reader must be apprised of this broader clinical responsibility.

5. The clinical perspective is often inappropriate. The lack of appropriate clinical perspective in the Statement is exemplified by the fact that neurally-mediated reflex syncope (by far the most common cause of syncope) (37,38, 41-43) is discussed only superficially. The Statement focuses attention on a much smaller, albeit not to be neglected, subset of high-risk patients (at most 20% of patients presenting with syncope) that may need cardiovascular interventions such as implantable cardioverter-defibrillators (ICDs) or pacemakers. Further, strong recommendations are made in circumstances where clear evidence does not exist. These recommendations may be pertinent to a select group of syncope patients, but not to the broader population, and may result in physicians feeling obligated to order tests that in reality are of uncertain sensitivity, specificity, or positive predictive value for the proposed application. For instance, the Statement implies both a broad utility for exercise testing in the syncope evaluation, and a usefulness of exercise testing as a “screening” tool for certain forms of ventricular tachycardia. Little is really known of the value of such testing in these
circumstances.

Even in terms of ICD and pacemaker therapies the Statement is lacking in a comprehensive and carefully defined view of the issues. For example with regard to pacemaker therapy, as the Statement is currently written, patients with atrioventricular block but without LV dysfunction in whom differentiation of the level of block would aid therapeutic decision-making are not candidates for electrophysiologic study. This approach is inconsistent with the most recent ACC/AHA/HRS guidelines for implantation of antiarrhythmia devices (44). Furthermore, the Statement does not provide practitioners with sufficient depth of insight into the appropriate circumstances and limitations of ICD utilization in syncope patients. For instance, while ICDs may prevent arrhythmic death, they may not alleviate syncope. This aspect of the treatment of the high-risk fainter is a common dilemma in ischemic heart disease and cardiomyopathy patients, as well as in individuals with rarer conditions such as Long QT syndrome and Brugada syndrome. The appropriate management of this issue needs more thought; while ICD and pacemaker therapies are certainly important, they are of value in only a minority of fainters.

In the case of patients with normal hearts, the Statement seems to downplay the importance of a thorough evaluation. Specifically, the Statement implies that aggressive diagnostic effort is only needed in the most severe (‘malignant’) forms of syncope where ‘malignant’ is “defined as an episode of syncope that occurs with little or no warning and results in significant injury or property damage”. This teaching again highlights the Statement’s bias toward those fainters with structural heart disease, and its tendency to diminish the importance of symptoms in seemingly lower-risk individuals who we know have substantially reduced quality of life (5), and who may be at future risk of injury or accident even if they have not experienced either of these upon initial presentation.

The Statement should encourage effective diagnostic assessment in all types of syncope patients, and should provide the treating physician with an informed perspective regarding the management of the common forms of syncope encountered in general cardiology and internal medicine practices every day. Beyond ICDs and pacemakers, clinicians should be made aware of evolving treatment options for vasovagal fainters, or patients with orthostatic hypotension, including those suffering from the various dysautonomias. A revised Statement could cite
important clinical research concerning for example the utility in such patients of ‘tilt-training’ (45-48) or other physical maneuvers such as leg-crossing or arm-tugging (49-52) and the impact of water drinking (53-55).

6. The approach is often superficial. The continued credibility, and utility of professional Statements depends on their providing not only a detailed and fair analysis of the existing data, but also on a thoughtful distillation and balance of the data and integration of all contemporary results rather than presentation of opinions. Unfortunately, the current Statement contains important examples of inadequate depth of analysis that undermines the credibility and meaningfulness of this and all such Statements. We offer 3 examples here: i) Contrary to the teaching in the Statement, ‘Vasovagal syncope’ is not another term for neurocardiogenic or neurally-mediated reflex syncope (13,14). Vasovagal syncope is a specific example of one form of neurally-mediated reflex syncope, as is carotid sinus syncope, post-micturition syncope and many others. While this observation may seem to be trivial, imprecise definitions such as this detract from the authoritativeness of the work. ii) The Statement offers a clear bias against head-up tilt-testing, but fails to provide appropriate references to support this view, or a balanced examination of the extant literature. In fact, 3 of the 4 citations provided in this section of the Statement are not primary sources addressing the issue at hand. From a differential diagnostic perspective, and in conjunction with a detailed medical history, the tilt-table test in our view provides invaluable information (13,14,26,27,41,56). Tilt-table testing not only helps confirm a clinical suspicion of reflex syncope in some patients (4, 13,14), but by reproducing spontaneous symptoms in many individuals, it may eliminate the need for more expensive and invasive diagnostic procedures that assess for other competing diagnoses. In any case, even if the view of tilt-testing provided in the current Statement is defensible, the authors should have taken the opportunity to include a broader view of the literature and might have even considered citing the ACC’s own expert consensus statement of 1996 (57). Finally, the comments regarding the role of tilt-testing fail to alert the practitioner to the potential value of the test as a diagnostic aid when needed, as a potential patient-educational aid to teach recognition of premonitory symptoms, and as a means for both studying the pathophysiology of and addressing certain treatment issues (such as ‘tilt-training [45-48]) in patients with various forms of orthostatic hypotension including autonomic failure. iii) The Statement indicates that “neurological causes should be considered in patients with
syncope”. However, apart from the importance of recognizing autonomic disturbances as causes of syncope, an existing large body of work points out the futility of a neurological testing strategy (for example 37,42,58-60). Indeed, the Statement even cites the work of one of the first investigators to point out the inappropriateness of focusing on neurological studies in the search for the basis of syncope (58). With the exception of autonomic failure, for which neurological expertise is important (56), the Statement should teach that neurological testing in ‘syncope’ is usually cost-ineffective and should be minimized. Furthermore, contrary to the suggestion in the section on neurological studies, bilateral carotid vascular disease, transient ischemic attacks, and vertebrobasilar disease do not cause true syncope except maybe in rare and peculiar cases (3,4, 61-65). Perhaps, if the Statement had been commissioned to address as its principal focus the broader clinical problem of ‘TLOC’ rather than “syncope”, then the recommendation would have been more appropriate because the list of possible causes may then include epilepsy and other disorders.

In closing, we note that the list of authors and reviewers of the ACCF/AHA Statement is comprised of many very respected individuals who have contributed importantly to the advancement of cardiovascular medicine, but only a few whose primary focus has been the study of TLOC and syncope. We believe that in order to provide a revised Statement with balance and enhanced credibility, it is essential to include a broader range of expertise.

Unless promptly revised, the current Statement may serve as a seemingly authoritative text that could be taken to provide a 'medico-legal' framework for all syncope evaluations in US and Canada. In that context, its current contents may not only lead to inappropriate care for patients, but may also establish a potentially damaging legal environment for physicians who provide thoughtful care of patients presenting with transient loss of consciousness.

Citations


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