The opportunity to serve as the 38th President of the Surgical Infection Society is truly a great privilege and one for which I am tremendously honored. My address focuses on the Society itself, a topic covered by a handful of previous presidents but not covered since President John Marshall did so in 2007 [1].

Why “Advance the Needle”

“Advance the needle” is a metaphor referring to an approach to organizational leadership and execution. Just advance the needle, have a net positive effect. Do not succumb to the fear of failure, “paralysis by analysis,” and the pursuit of perfection to the exclusion of achieving good. This presentation about the Surgical Infection Society will be divided into four categories: the origins of the Surgical Infection Society followed with the organization’s successes, challenges, and opportunities for advancing the needle.

Origins of the Surgical Infection Society

Although the first annual meeting occurred in Chicago on April 25, 1981, the seed that grew into the Surgical Infection Society (SIS) was planted in 1968 when the American College of Surgeons authorized the formation of a committee on the control of surgical infections, chaired by Dr. William A. Altemeier [1–3]. This committee published the Manual on Control of Infection in Surgical Patients in 1976. The four members of the editorial sub-committee, Drs. William Altemeier, John Burke, Basil Pruitt, and William Sandusky would become four of the first five presidents of the SIS. Members of this committee joined with a group of investigators interested in surgical infections that had begun to gather at the Society of University Surgeons conference, arranging a pre-organizational meeting of the 10 founding members in Atlanta, Georgia, in April 1980. An SIS organizational meeting involving 30 people took place in Chicago the following month and the first annual meeting of the SIS took place the following year. There were 119 original charter members in 1981 and the annual meeting attracted 99 registered members and guests.

Purpose of the SIS

The purposes of the SIS were originally and continue to be outlined in the first two sections of Article II of the organization’s Constitution and Bylaws.

SECTION 1: The Society is committed to providing leadership in the prevention, diagnosis, and treatment of infection in surgical patients.

SECTION 2: The mission of the Society is to educate health care providers and the public about infection in surgical patients and promote research in the understanding, prevention, and management of surgical infections.

These two sections have been simplified and revised slightly since the original version but the primary goals remain the same. One subtle but substantive change from the original verbiage is the use of “infections in surgical patients” in the place of “surgical infections.” This change reflects both advances in care of surgical infections and the breadth of our scope to treating all infections in surgical patients.

While Article II outlines appropriately the purposes of our Society, what is not included is any verbiage specifically addressing the Society’s membership. The SIS exists for and because of its members. The membership is the Society’s primary customer. Without the engagement and involvement of the members, the mission of the Society cannot be achieved. If the Society is not meeting the needs of its members and providing clear avenues for productivity and recognition, the Society will struggle to maintain a healthy and engaged membership. The Society must be an effective tool through which members can achieve its stated mission successfully, doing so more effectively through the Society than outside of it.

Advancing the Needle

In the 37 years since its inception, the Society has achieved its mission through several avenues. The annual meeting has grown to be a well-attended and profitable venue for the presentation of new basic and clinical research and educational programs related to infections in surgical patients. The organization has grown in membership, providing a forum...
for networking, collaboration, and long-lasting mentoring relationships. The Society has provided the organizational structure for the publication of more than 60 evidence-based guidelines, reviews, and position papers by its members. And perhaps most significant for a Society of its size, as of this meeting, the SIS has provided the avenue through which more than $3.5 million of grant support has been provided to 116 trainees and junior faculty to support research activities in topics related to the understanding, prevention, and management of infections in surgical patients.

Meetings
The first meeting in Chicago was a single-day meeting, attracting 99 registered members and guests [4]. Dr. Pruitt, who served as the recorder and program chair for the first four years of the Society, received 48 abstracts and selected 20 papers for presentation during the one-day meeting in 1981. These consisted of 11 clinical papers, eight laboratory papers, and one combined study [4]. The number of attendees of the annual meeting has grown steadily over time, with the number of registrations averaging 272 over the past five years (Fig. 1). For the last 15 years, which includes two combined meetings with international groups, abstract submissions have averaged 115 per year, this year numbering 114 total abstracts submitted. The single-day meeting has expanded to a three-day meeting that incorporates three update symposia, 43 full oral abstract presentations, 56 mini-oral presentations, and the Altemeier Lecture.

Over time, the characteristics of the papers being presented have changed. Papers during the first five years of the organization were equally divided between clinical and basic science topics. Ten years later, basic science papers comprise the majority of papers at just over 60%. However, with increased access to clinical data and perhaps reflecting changes in the interest of our membership, clinical and translational papers now comprise more than 70% of the papers presented.

Fellowships
The SIS includes in its mission the promotion of research in the understanding, prevention, and management of surgical infections. Its main mechanism to promote research has been through its research fellowship awards. Shortly after the founding of the SIS, the council established trainee research fellowship awards with a stipend of $30,000 for salary support and an additional $5,000 for supplies and travel [2]. The first awards were given in 1984 and have since grown to include both training and junior faculty awards. From 1984 through 2017, the SIS has awarded 112 awards to 92 different trainees. A total of 92 basic and 20 clinical research training awards have been given through 2017.

Although occasional discussion within the Society has expressed concern that research support for trainees might be weighted to a small number of SIS mentors with established laboratories, the data do not provide support for this. More than 55 different members of our Society have served as mentors to trainees receiving these SIS Research Fellowship awards. Of those funded by these awards, 22% remain members, two have gone on to become president of the Society, and four others have served on council.

In 1998, the Society expanded its support of research mission to include a Junior Faculty Fellowship award. Through 2017, the SIS has awarded 26 junior faculty awards to 21 recipients. The majority of the awards (21) have funded basic research with five awards funding clinical projects. With a requirement that faculty be members of the SIS, these awardees have a much higher membership rate with 75% remaining as members. Of this group, two have gone on to become president of the Society with five additional members of council.

Challenges to the Society’s Ability to Advance the Needle

In the first presidential address to review the SIS as a topic, Dr. J. Wesley Alexander outlined four particular challenges facing the Society [2]. Over a span of 25 years since Dr. Alexander’s address, various presidential addresses have reiterated these same four challenges and three additional ones (Table 1). Each of these seven challenges persists today for the SIS. I will touch in one way or another on most of these challenges.

Financial challenges

Each of these seven challenges outlined by previous presidents interfaces, directly or indirectly, with the financial health of our Society, a challenge not previously raised in any of the addresses. I believe that at least a basic understanding of how the various challenges and opportunities alter our financial position is important. At the beginning of my tenure as treasurer the organization, the SIS was in a precarious financial position. In the fall of 2015, the cash on hand for the Society fell to a level that forced the Executive Director to delay personal salary payments to ensure the ability of the Society to remain solvent. Since the fall of 2015, our financial position has improved substantially, largely because of the fundraising efforts of the executive director’s office.

For the Society to pursue its mission successfully and to continue to advance the needle mandates financial health. How the organization funds its research fellowships has changed fundamentally over the years and the financial health of the Society has direct implications for the Foundation. A strong and engaged membership is one important aspect of maintaining financial health and the ability to the organization’s mission.

Fellowship funding

To provide startup funds for the Society, each of the 10 founding members gave $250, equivalent to just over $800 in 2018. From its inception, the Society has benefited from industry support. Dr. Altemeier secured $500 (approximately $1,600 in 2018) in donations from four pharmaceutical companies including Abbott Laboratories, Bristol Laboratories, Eli Lilly and Company, and Schering-Plough Corporation for a total of $4,500 of startup funds ($14,463 in 2018) [2].

The originating council of the Society recognized that the development of young scientists with interests in surgical infections would be one of the most important contributions of the Society and developed the concept of Society-sponsored fellowships funded through industry support. The council established that the desired stipend should be $30,000 of salary support with an additional $5,000 for supplies and travel. In 1984, 3M Corporation (St. Paul, MN) and Johnson and Johnson (New Brunswick, NJ) provided the first corporate Surgical Infection Society Fellowships. Since those initial fellowships, industry has funded 105 fellowship awards, 99 of these trainee awards and six junior faculty awards. The table shows the generosity of various industry sponsors (Table 2).

Industry sponsorship of fellowships increased over subsequent years to reach a maximum of seven in 2000. However, in 2008, relations with industry funding changed after the publication of the Pharmaceutical Research and Manufacturers of America’s (PhRMA) updated Code on the Interactions with Healthcare Professionals in November 2008. This new code took effect in January 2009 and substantially changed the relation of funding with industry. As shown in Figure 2, the last direct corporate funding of fellowships occurred in 2010, with fellowship currently being funded through the SIS Foundation.

Funding of the SIS Foundation for Education and Research

Industry’s support has exceeded that of funding the fellowships directly from early in the Society’s history, allowing the organization to build residual funds. In November 1994, Articles of Incorporation of the Surgical Infection Society Foundation for Education and Research were signed and filed. The Society transferred residual funds to the Foundation and by 1997 funds within the Foundation exceeded $180,000 [4]. Since that time, through expert stewardship by the leaders of the Foundation—most recently Dr. Phil Barie—its value has grown to more than $2.5 million. However, the Foundation now faces challenges to growth that it has never faced previously.

The Foundation has funded 13 trainee fellowship awards and 20 junior faculty awards directly. Currently, the SIS Foundation annually funds two $35,000 trainee awards, one $70,000 two-year junior faculty award, and more than $5,000.
of awards at the annual meeting. The roughly $145,000 of annual expense represents a use of between 5% and 6% of the Foundation’s funds, thus limiting the Foundation’s growth through compounded interest. In addition, for most of the history of the Foundation, the Society has transferred funds to it to support its growth. Figure 3 demonstrates the average annual transfer of funds to the Foundation. As can be seen, no funds have been transferred since 2014. Since the Society’s financial crisis in 2015, the cash position of the Society has improved considerably. The improvement is

![Table 2. Industry Sponsorship of SIS Research Fellowship Awards](image)

**Table 2. Industry Sponsorship of SIS Research Fellowship Awards**

<table>
<thead>
<tr>
<th>Sponsorship of the SIS Resident/Fellow Research Awards</th>
<th>Sponsorship of the SIS Junior Faculty Research Awards</th>
</tr>
</thead>
<tbody>
<tr>
<td>3M 14 Astra Zeneca 3</td>
<td>Pfizer 1 Tauer Awards 6</td>
</tr>
<tr>
<td>Wyeth, Wyeth-Ayerst 12 SmithKline Beecham 3</td>
<td>Merck 1</td>
</tr>
<tr>
<td>Pfizer 11 Dura Pharmaceuticals 2</td>
<td>Cubist 1</td>
</tr>
<tr>
<td>Merck &amp; Co. 9 Hoechst Marion Roussel 2</td>
<td>Upjohn 1</td>
</tr>
<tr>
<td>Marion Labs, Marion Merrell Dow 9</td>
<td>Aventis 1</td>
</tr>
<tr>
<td>Stuart Pharmaceuticals 6</td>
<td>Adventis 1</td>
</tr>
<tr>
<td>Zeneca ICI 5</td>
<td>Cubist 1</td>
</tr>
<tr>
<td>Bristol-Myers Squibb 4</td>
<td>Lederle 1</td>
</tr>
<tr>
<td>E.R. Squibb &amp; Sons 4 Pharmacia Corporation 1</td>
<td>Pfizer 1</td>
</tr>
<tr>
<td>Johnson &amp; Johnson 4</td>
<td>Merck 1</td>
</tr>
<tr>
<td>Roche 4 Rhone-Poule-Rorer 1</td>
<td>Total Awards 6</td>
</tr>
</tbody>
</table>

![FIG. 2. Funding source (industry versus SIS Foundation) for SIS Research Fellowship Awards for trainee and junior faculty from 1984 through 2017.](image)
in large part because of industry support secured by the Executive Director. Since 2015, the annual sponsorship of the Society has averaged more than $280,000 per year. The success of securing these funds may put the organization in a position to once again contribute funds to the Foundation.

Whereas the funding of research fellowships by the organization is laudable, the value of the awards has not been adjusted in the more than 30 years of the SIS Research Fellowships. The equivalent funding, adjusted for inflation would be $85,000. In 1990, when I received the SIS/3M Research fellowship, my resident salary at the University of Virginia was $27,500. In 2017, the PGY II salary was $58,255. Thus, funding no longer actually covers a resident’s salary. For a trainee to enter a year of research requires either that the resident secures additional funding or that the mentor has alternative funding sources. If the Society were to adjust the funding of trainee awards to $60,000 and the junior faculty award to $100,000, then the Foundation’s net worth would need to increase by approximately $1 million.

This is a target that I believe the Society and the Foundation should set. One hundred percent of the council donates to the Foundation. With dedicated directed efforts at the annual meeting, the proportion of the membership that donates has increased to nearly 20%. However, we can do much better. We should target 100% donation by the members. If each member contributed $100 dollars per year, even with no other funds appropriate growth in the Foundation would be achieved in approximately eight years.

Growing membership

Make no mistake, with the current membership, dues structure, and meeting registration, the Society would not be able to achieve its mission without industry support. Despite maintaining a lean budget, at the current active membership, dues only cover approximately 65% of expenses. The Society depends substantially on profit from the annual meeting to make up this difference. At the anticipated meeting attendance, registration fees are approximately $50 short of cost. Thus, industry support is critical to our success and ability to achieve our mission.

Most of the expenses of the organization are relatively fixed, thus increasing membership numbers improves the Society’s financial position. At an active membership of 500, the goal that is expressed within the strategic plan, dues would cover nearly 90% of the expenses. Thus, one method to limit the dependence on industry funds is to grow the Society’s membership. The graph demonstrates that total membership has been relatively stagnant over that past twelve years. During that time, the proportion of the membership that is either candidate or senior membership has increased and the active membership fell to low point of 358 in 2015.

In 2015, Dr. Jill Cherry and the membership committee initiated a membership campaign and have since recruited more than 136 full or candidate members to the Society. However, member retention has been a problematic. During the same recruitment period, roughly 100 members dropped or resigned their memberships, thus resulting in a net of about 36 additional members. To achieve our goals, we need to improve retention.

Opportunities to Advance the Needle More Effectively

Meeting membership challenges and enhancing membership engagement

As I stated previously in the presentation, the membership should be considered the Society’s primary customer. The Society has substantial opportunity to engage its membership more effectively, understand the membership’s needs and the items that provide a return on investment from membership. Additionally, I believe that we have substantial opportunity to utilize the collective wisdom of our members more effectively to address challenges and set directions for the Society.
Capitalizing on the wisdom of the SIS crowd

In his book, *The Wisdom of Crowds*, James Surowiecki highlights the conditions under which the “many” are smarter than the “few” [5]. In the International Health Exhibition of 1884 in London, an English statistician and pioneer in the theory of eugenics, Sir Francis Galton wanted to demonstrate that the general population was not capable of making good decisions. To prove his theory, Galton elected to gather the ticket answers from 800 contestants guessing the weight of an ox after it was slaughtered and dressed. Galton obtained an interesting result, contrary to his theory. The calculated mean, representing the collective wisdom of the Plymouth crowd, outperformed all 800 individual entrees. The crowd had guessed that the ox would weigh 1,197 pounds. It actually weighed 1,198 pounds. The observation that a group’s input outperforms an individual’s, expert or not, has been demonstrated for simple cognitive problems by numerous researchers including one with which many may be familiar: finance professor Jack Treynor’s classic demonstration using the “jelly-beans-in-the-jar” experiment.

Surowiecki goes on to present evidence on how information from the many outperforms the few in more complex cognitive problems as well as coordination and cooperation problems. He outlines the conditions that are necessary for the “crowd to be wise” including independence, diversity, decentralization, and aggregation. Independence requires that each opinion is not affected by those surrounding them. Diversity facilitates the addition of some private information, not held by others. Decentralization allows local and specialized knowledge to be added to the pool. Finally, there must be a mechanism to aggregate the private judgements into a collective decision.

On May 22, 1968, the U.S. nuclear submarine USS Scorpion disappeared with 99 crew members on its return trip from the North Atlantic to Newport News, Virginia. With several days since its last contact, locating the submarine was an immense challenge with a tremendous search area in an area of the ocean thousands of feet deep. As recounted in the book *Blind Man’s Bluff* by Sherry Sontag and Christopher Drew, the task was the responsibility of John Craven, the Chief Scientist of the U.S. Navy’s Special Projects Division [6]. Craven devised a plan to utilize the collective wisdom of a diverse group of individuals. Craven assembled a diverse team of individuals with a wide range of skills including mathematicians, submarine specialists, salvage crew, navigational crew, etc. After formulating a series of reasonable hypotheses and scenarios that might have occurred, he asked each participant to wager how likely each scenario was. Craven used the information from all of the wagers, and using Bayes’ theorem to construct a probability density map to direct the search. Five months after the Scorpion’s disappearance, it was located in 9,800 feet of water just 220 yards from where Craven team predicted.

The effective use of surveys and modified Delphi methods are two mechanisms that can be utilized to capitalize on the collective wisdom of our membership. I believe that we can engage our membership more effectively and seek broader input through the skillful utilization of such tools.

**Expanding opportunities for networking and collaboration**

In 2015, Jill Cherry and the membership committee surveyed the membership of the SIS with a response rate of 28%. Opportunities for networking, collaboration, and education were among the most important factors for members to remain in the SIS (Fig. 4).

This survey also queried the membership regarding interest in a combined or co-located meeting to create what could be called a Surgical Infection Week. Two-thirds of respondents (67%) were in favor of this concept, and only 4% opposed it. Two societies were identified as the top alternatives, Shock Society and the Infectious Diseases Society of America. The SIS Council heard this message. To create broader opportunities for networking, collaboration, and education at the annual meeting, the 2019 meeting of the SIS will be co-located with the Shock Society at the Loews Coronado Bay Resort, in San Diego, California.

**Opportunities to advance through diversity**

In *The Wisdom of Crowds*, Surowiecki demonstrates clearly the importance of diversity to the wisdom of group decision making [5]. Diversity is beneficial in other ways as well. Diversity is crucial to the likelihood of breakthrough innovation. As demonstrated in research by Lee Fleming, a Harvard business professor, increasing the diversity of

---

![FIG. 4. Responses from 138 respondents to the 2015 SIS Membership Survey question: What are the most important attributes of the SIS the stimulate you to RETAIN your membership?](image-url)
expertise and experience within a team increases breakthrough innovation (Fig. 5) [7]. Greater diversity does have some down sides. As can be seen, the amount of insignificant innovation also increases. However, research demonstrates that this downward spread in innovation can be improved by combining people with deep rather than broad expertise in their respective disciplines.

Diversity’s effect is not linear. It has been shown to diminish performance if it disrupts team identity [8]. However, in settings in which collective team identity is maintained or remains high, diversity increases performance and productivity. Diversity within organizational leadership is also beneficial, being associated with improved organizational productivity and performance. For example, companies whose leadership exhibits high levels of both inherent (e.g., gender and race) and acquired diversity (experience or training) (2-D) are 45% more likely to have growth in market share and 70% more likely to enter new markets than those without such diversity [9].

Would the SIS benefit from greater diversity? I’ll leave that to the membership to answer. However, perhaps not too surprisingly, the SIS cannot be described as diverse. The composition of our membership is dominated by physicians, the relative number of which has remained relatively constant between 1987 and 2018 (Table 3). Results of the 2015 survey demonstrates that of the physicians, 98% are surgeons, 80% of respondents have an adult focus, 78% are employed at academic medical centers, and more than 50% of the respondents identify themselves as ACS, trauma, or critical care.

We certainly have the opportunity to increase gender diversity. In a presentation at this year’s meeting, Karla Bernardi and colleagues highlight the state of our organization’s gender diversity (Fig. 6). As can be seen, the percentage of the Society’s female members has increased from approximately 10% to more than 30% in the last 15 years; 34% is equal to the percentage of females that are practicing surgeons in the United States. However, the leadership of the Society has remained heavily male dominated, despite increasing female membership of the Society. If Hewlett’s data holds true for our organization, the SIS could benefit from greater diversity within its leadership.

Opportunities to increase recognition of the membership's expertise, excellence, and contributions

To facilitate the Society’s mission of providing leadership in the prevention, diagnosis, and treatment of infections in surgical patients, its members must be recognized as experts. To enhance the recognition of the SIS membership as true experts in the field of surgical infections, the Fellowship Committee has been charged with establishing a process by which members of the Society can become recognized as Fellows of the Surgical Infection Society. A member’s designation of FSIS will demonstrate both expertise and sustained contribution to advancement of the prevention, diagnosis, and treatment of infections in surgical patients.

Our Society has many engaged and committed members that contribute greatly to advancing the Society’s mission. However, we have no formal mechanism of recognizing these significant contributions outside of appointment to committees and election to council. I will charge the Awards Committee to establish the framework and structure for a Presidential Citation Award to recognize non-council members of the Society who have contributed significantly to advancing the mission of the organization within the previous year.

Opportunities to advance the Society's international footprint

For the last 30 years, presidential addresses have introduced an expansion of the Society’s international scope as an explicit goal. Opportunities remain for the organization. For years, the SIS has maintained a somewhat variable relationship with SIS-Europe, determined in part by the activity of their organization. Currently, our secretary/treasurer is rekindling the interface between the two organizations.

International involvement has also expanded through collaborations with the World Society of Emergency Surgery and through the SIS’s involvement in the Global Alliance for Infections in Surgery. The SIS and its membership have collaborated in several international projects resulting in publications in both Surgical Infections and the World Journal of Emergency Surgery. Under the leadership of Dr. Therese Duane, the Therapeutics and Guidelines Committee is completing a joint paper with the World Society of Emergency Surgery on the management of necrotizing soft tissue infections, with subsequent projects to follow this year. The Global Alliance for Infections in Surgery, with which the SIS is a participating partner, is sponsoring a free world wide web meeting on May 16, 2018 entitled “Warning in Surgery” to address the issues of antibiotic stewardship and resistance in surgery. Both Dr. Itani and I are representing the SIS in this endeavor. On Wednesday morning, the second

FIG. 5. Diagram demonstrating the contribution of diversity of experience to the value of innovative solutions. As diversity increases, the number of high value innovations increases, though also accompanied by low value innovations.
update symposium is Global Health Updates on Surgical Infections, a dedicated session drawing attention to the great opportunities for advancement in the prevention, diagnosis, and treatment of infections in surgical patients that exist in resource limited countries.

To facilitate the Society’s ability to expand its global impact and to capitalize on the growing interest in global health within the membership, I will establish an ad hoc Global Health Committee to be chaired by Dr. Greg Beilman with two charges: (1) a white paper outlining pathways to advance the Society’s global health footprint that are consistent with the Society’s strategic plan and (2) author a needs assessment for infections in surgical patients in low and middle human index development countries for publication in our Journal.

Opportunities for improving execution:
Advancing the needle more effectively

The longevity of the challenges facing our Society suggests a lack of execution. I do believe that the Society has opportunity to improve its execution. There are three core components of execution: people, strategy, and operations. The membership of the organization is tremendously talented and skilled. The strategic objectives are clearly delineated in our strategic plan. Thus, I perceive that our issues with execution are likely operational in nature. To execute well, goals must be clear, measures of performance accurate, accountability present, and the right rewards must be in place.

The 10 standing committees of the SIS are the avenue through which the organization achieves its stated mission. For the Society to execute, our committees must execute. Being a committee chair is the most important position in the Society. These committees have a total of 87 members responsible for ensuring that each committee can meet its obligations and complete its charges. However, this represents only approximately one-fifth of the organization’s active members. Limiting contributions to only committee members will constrain the organization’s productivity. I would encourage all committee chairs to reach out to the general membership if needed and all members to contribute whether or not you have a committee appointment. The importance of information technology to the success of our organization, like most organizations, has grown tremendously in a short period of time. The responsibilities of the Informatics Committee have significantly expanded and can be grouped into three categories: (1) Website applications, (2) social media, and (3) information and communication management. To address these three categories effectively, the committee structure will be broadened to include vice chairs for each category. The charges will be challenging: to advance information flow to the public and groups beyond the SIS, maximize the functionality of our website, and enhance our data and document access, utilization, and retention to support organizational effectiveness.

Fifteen years ago, John Marshall’s book Source Control was published. In his address in 2007, he proposed creating a SIS manual on source control. Five years ago, Matthew Rosengart and I published the results of a modified Delphi process outlining potential topics for an ACS Surgical Infection Curriculum [10]. In April 2017, the strategic plan was approved. Goal A2 of the plan is the establishment of a well-organized educational program and curricula for surgical infections. This opportunity still remains.

Under the leadership of Dr. Phil Barie, the Scientific Studies Committee is making noteworthy progress in creating the infrastructure for the SIS to support and facilitate large registry studies across broad areas related to surgical infections. This would be a tremendous asset for the Society and greatly facilitate the Society’s ability to advance the needle.

Again, I am honored and humbled by the opportunity to serve as the Society’s president. I am optimistic about the ability of the SIS to advance the needle and am excited to direct the Society’s efforts in doing so this year.

Author Disclosure Statement

No competing financial interests exist.

References


Address correspondence to: Dr. Addison K. May
The Division of Trauma and Surgical Critical Care
Vanderbilt University Medical Center
1211 21st Avenue South
404 Medical Arts Building
Nashville, TN 37212
E-mail: addison.may@vanderbilt.edu