# Education of Physicians-in-Training Can Decrease the Risk for Vascular Catheter Infection

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**Background:** Procedure instruction for physicians-in-training is usually nonstandardized. The authors observed that during insertion of central venous catheters (CVCs), few physicians used full-size sterile drapes (an intervention proven to reduce the risk for CVC-related infection).

**Objective:** To improve standardization of infection control practices and techniques during invasive procedures.

**Design:** Nonrandomized pre–post observational trial.

**Setting:** Six intensive care units and one step-down unit at Wake Forest University Baptist Medical Center, Winston-Salem, North Carolina.

**Participants:** Third-year medical students and physicians completing their first postgraduate year.

**Intervention:** A 1-day course on infection control practices and procedures given in June 1996 and June 1997.

**Measurements:** Surveys assessing physician attitudes toward use of sterile techniques during insertion of CVCs were administered during the baseline year and just before, immediately after, and 6 months after the first course. Preintervention and postintervention use of full-size sterile drapes was measured, and surveillance for vascular catheter–related infection was performed.

**Results:** The perceived need for full-size sterile drapes was 22% in the year before the course and 73% 6 months after the course ($P < 0.001$). The perceived need for small sterile towels at the insertion site decreased reciprocally ($P < 0.001$). Documented use of full-size sterile drapes increased from 44% to 65% ($P < 0.001$). The rate of catheter-related infection decreased from 4.51 infections per 1000 patient-days before the first course to 2.92 infections per 1000 patient-days 18 months after the first course (average decrease, 3.23 infections per 1000 patient-days; $P < 0.01$). The estimated cost savings of this 28% decrease was at least $63 000 and may have exceeded $800 000.

**Conclusions:** Standardization of infection control practices through a course is a cost-effective way to decrease related adverse outcomes. If these findings can be reproduced, this approach may serve as a model for physicians-in-training.

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Vascular catheter infection is a substantial cause of morbidity and death in hospitalized patients. It has been estimated that 50 000 to 100 000 bloodstream infections related to vascular devices occur yearly in the United States; 90% of these infections originate from central venous catheters (CVCs) (1). The attributable mortality rate for CVC-related bloodstream infections ranges from 14% to 28% (2–6). The attributable cost of such infections has been estimated to be as high as $29 000 per episode (4). Various interventions, including skin preparation with chlorhexidine (7), use of vascular catheters with anti-infective coatings (8, 9), and use of maximum barrier precautions during catheter insertion, have been shown to reduce risk for catheter-related infections (10, 11). Currently, the optimal strategy for minimizing risk for vascular catheter infection is unclear.

In 1993, the infection control committee at Wake Forest University Baptist Medical Center, Winston-Salem, North Carolina, adopted the recommendations of Raad and colleagues (11) and established a policy that called for use of maximum sterile barriers (including a full-size sterile drape, sterile gown, sterile gloves, and a mask) when inserting CVCs. Despite conventional bedside and didactic instruction by critical care medicine faculty over a 2-year period, compliance of physicians-in-training was poor (<20%, according to informal surveys). Unpublished observations during a previous investigation suggested that procedures for CVC insertion varied widely and that a new educational approach was necessary. A multidisciplinary group developed and implemented a 1-day "hands-on" course to teach basic procedures and infection control practices to physicians completing their first postgraduate year (PGY-1) and third-year medical students. The details of this approach, which nurses call a "skills fair," form the substance of our report.

## Methods

### Description of the Course

The course was organized as follows. Infection control practitioners and a hospital epidemiologist taught 1 hour of basic infection control principles. Content included handwashing, isolation and appropriate use of barrier garments, and handling of patients with resistant organisms and varicella. Occupational Safety and Health Administration (OSHA) considerations for blood and body fluids and tuberculosis were taught in a separate hour-long session on a different day. Thereafter, medical students and PGY-1 physicians rotated through a series of 1-hour stations, at which they received 5 to 15 minutes of didactic instruction followed by hands-on instruction that was overseen by one to three faculty members. Faculty were selected because of their roles in supervising and teaching procedures in patient care settings. The course director observed each instructor for an entire session to ensure that the appropriate content was being delivered.

At the hands-on stations, participants received training in 1) blood draws through vascular lines (taught by oncology catheter care nurses), 2) arterial puncture for obtaining an arterial blood gas (taught by respiratory therapists), 3) insertion of arterial catheters and CVCs (taught by critical care medicine faculty and fellows and trauma faculty), 4) urinary catheter insertion (taught by nurse instructors), 5) lumbar puncture (taught by an oncologist), 6) peripheral venous catheter insertion (taught by nurse instructors), and 7) phlebotomy (taught by faculty from the School of Medical Technology at Wake Forest University Baptist Medical Center). At all stations, mannequins were used to simulate patients; urinary catheterization was taught with male and female mannequins. All participants practiced phlebotomy on each other. Participants started peripheral intravenous lines first on mannequins and then on another participant. All of the hands-on sessions employed the same devices and supplies used in the hospital. Fifteen-minute breaks were given in the morning and in the afternoon, and a 1-hour lunch was provided.

The PGY-1 physicians were divided into two large groups of approximately 50 persons, each of which was taught on a different day as part of the orientation for new interns. The medical students were taught on a separate day. Each hands-on station had 7 to 16 participants per small group session. In the second year of the course, most of the didactic instruction that preceded the hands-on sessions was done by videotape.

A member of our infection control department reviewed the content of each didactic session to ensure its consistency with existing infection control policies. Content of courses on vascular catheters included use of povidone-iodine for skin preparation, avoidance of antibiotic ointment at the insertion site, and use of clear plastic dressings. Participants were also instructed to change dressings and intravenous tubing every 3 days and not to adhere to fixed schedules for changing CVCs. Of note, the hospital's infection control policy on vascular catheters did not change substantially during the study period, with the exception of the educational intervention; in particular, antibiotic-coated catheters were not used.

## Data Collection

### *Previous Experience with Procedures*

During each hands-on session, PGY-1 physicians were asked to estimate the number of previous procedures that they had performed during medical school.

### *Course Evaluation*

At the end of each 1-day course, an evaluation was given to each participant. Participants were asked to rate various factors, including each instructor, on a scale of 1 to 5 (1 = poor; 5 = excellent).

### *Use of Full-Size Sterile Drapes*

The purchasing department provided data on the use of full-size sterile drapes. During the baseline year, a locally prepared sterile sheet was used. After the first course, a commercially available, full-size sterile drape (Kimberly-Clark, Roswell, Georgia) was used in all areas of the hospital in which CVCs were inserted. The purchasing department also monitored the number of CVCs inserted before and after each course was taught. Full-size sterile drapes were separate from the CVC kits during the preintervention and postintervention periods.

Eight months before the first course (4 months into the baseline period), 140 physicians at all levels of training completed an anonymous survey of the perceived need for use of full-size sterile drapes. Before the first course, immediately after the first course, and 6 months after the first course, the participating group of PGY-1 physicians completed subsequent anonymous surveys. The same PGY-1 physicians were also surveyed about whether CVC insertion required povidone-iodine skin preparation, sterile gowns, sterile towels, and sterile gloves.

### *Catheter-Related Infection*

To determine whether improved compliance with use of full-size sterile drapes or improvements in other areas of vascular catheter insertion were associated with reduced risk for catheter-related infection, precourse and postcourse surveillance for such infection was performed in six general medicine–surgery intensive care units and the associated step-down unit. We focused on insertion of CVCs and arterial catheters because at our institution, physicians-in-training perform essentially all of these procedures. In addition, we examined primary bloodstream infections because more than 90% of such infections in intensive care units probably originate from CVCs (12–14). Nosocomial primary bloodstream infections were identified on the basis of Centers for Disease Control and Prevention (CDC) surveillance definitions (15). In a primary bloodstream infection, a pathogen is isolated from a blood culture or cultures and is not related to infection at another site, unless that site is a vascular catheter (15). Catheter-related infections were defined as meeting definition three of the CDC Cardiovascular System Infection criteria for arterial or venous infection (15). Fulfillment of this definition required the presence of fever (temperature > 38 °C), pain, erythema, or heat at the catheter site plus the presence of a negative blood culture or absence of any blood cultures and the presence of a positive roll-plate culture of the catheter. For the positive roll-plate culture, we substituted a positive sonication culture (≥100 colony-forming units/mL) (16). Blood cultures were done by using the Wampole Isolator (Wampole Laboratories, Cranbury, New Jersey) and were predominately drawn only through a peripheral vein or as paired cultures through a peripheral vein and through a catheter. Catheter and bloodstream isolates were not molecularly typed.

In the seven study units, use of CVCs was high ([central line days/patient days] × 100% = 73%). Because of this, we concluded that patient-days could serve as a surrogate of device-days, even though the latter would probably be more accurate under other circumstances (12).

#### *Other Procedure Considerations*

The frequency of blood and body fluid exposures among PGY-1 physicians was evaluated during the year before and the year after the first course. These data were obtained from our employee health service, which has had a formalized reporting program for 6 years.

We did not measure changes in practice or outcomes related to lumbar punctures because the number of procedures performed was small and the complication rate is low; this made our sample size inadequate for demonstrating differences. In addition, we did not monitor procedures that are not performed primarily by physicians (that is, arterial punctures, urinary catheter insertions, blood draws through lines, peripheral line insertions, and phlebotomy).

### Statistical Analysis

Proportions were compared by using the two-tailed chi-square test or the Fisher exact test. The rates of catheter-related infection were compared by using the incidence density ratio of the preintervention and postintervention periods, which were obtained by using the $z$ test statistic (17). A $P$ value less than 0.05 was considered statistically significant.

**Table 1. Estimated Number of Procedures That Physicians in Their First Year of Postgraduate Work Performed While in Medical School***

| Procedure | Physicians with No Previous Experience | | Median Procedures Performed | |
|---|---|---|---|---|
| | 1996 | 1997 | 1996 | 1997 |
| | % | | *n* | |
| Arterial punctures | 11.9 | 19.1 | 5 | 5 |
| Blood draws through lines | 32.2 | 38.2 | 2 | 1 |
| Central venous catheter insertion | NA | 35.2 | NA | 1 |
| Lumbar puncture | 15.3 | 11.4 | 3 | 3 |
| Peripheral line insertion | 18.9 | 6.6 | 4 | 5 |
| Phlebotomy | 20.0 | 1.1 | 10 | 20 |
| Urinary catheter insertion | 3.3 | 2.2 | 10 | 10 |

* In 1996, 107 physicians in their first year of postgraduate work participated; in 1997, 92 participated. NA = not available.

## Results

The infection control course was given three times in June 1996 (for 110 PGY-1 physicians and 107 medical students) and three times in June 1997 (for 95 PGY-1 physicians, 94 medical students, and 46 physician assistant students). In both years, all mean evaluation scores for course instructors ranged from 4.4 to 4.8 on a scale of 1 to 5.

### Previous Experience with Procedures

Most PGY-1 physicians had little experience performing procedures during medical school (**Table 1**). With the exception of phlebotomy and urinary catheterization, most had performed each type of procedure less than five times, and 10% to 40% had never done some of the procedures. Of note, in 1996, 20% of PGY-1 physicians reported that they had not performed phlebotomies in medical school; in 1997, however, only 1.1% reported that they had not. There is no clear explanation for this disparity because we requested the information from both groups in exactly the same way.

### Use of Full-Size Sterile Drapes

During the baseline period, 8 months before the first course, we surveyed 140 physicians (PGY-1 physicians, physicians completing their second through fifth postgraduate years, fellows, and faculty) who had inserted CVCs in the seven study units. Only 22% thought that full-size sterile drapes should be used while inserting CVCs (**Table 2**). Of the 110 PGY-1 physicians participating in the course, 109 were surveyed three times. The propor-

**Table 2.** **Physicians' Perceived Need for Full-Size Sterile Drapes and Other Sterile Measures during Insertion of Central Venous Catheters in Six Intensive Care Units and One Associated Step-Down Unit, in Relation to June 1996 Infection Control Course**

| Variable | Physicians Who Completed Surveys | Need for Full Drapes | Need for Towels | Need for Povidone-Iodine | Need for Gowns | Need for Gloves | Need for Masks |
|---|---|---|---|---|---|---|---|
| | *n* | ← | | % | | | → |
| 8 months before the course | 140* | 22 | 94 | 99 | 72 | 100 | 74 |
| Immediately before the course | 109† | 33‡ | 88‡ | 97 | 80 | 96 | 82‡ |
| Immediately after the course | 109† | 99‡ | 25‡ | 99 | 98 | 99 | 98‡ |
| 6 months after the course | 109† | 73‡ | 53‡ | 96 | 82 | 98 | 91 |

* Physicians completing their first through fifth postgraduate years (PGY-1 through PGY-5), fellows, and faculty who inserted catheters in intensive care units.
† PGY-1 physicians participating in the course.
‡ The difference between precourse and postcourse scores was significant ($P < 0.01$).

tion of PGY-1 physicians who thought that full-size sterile drapes should be used increased from 33% before the course to 99% immediately after the course and decreased to 73% 6 months after the course. The increase was statistically significant ($P < 0.001$). In the same 6-month period, the number of PGY-1 physicians who thought that sterile towels should be used to drape the field decreased significantly ($P < 0.001$); however, physicians' views about the use of sterile gloves, sterile gowns, masks, and povidone-iodine skin preparation did not change significantly.

In the year before the first course, data from the purchasing departments showed that 874 full-size sterile drapes and 2009 CVCs were used by the six intensive care units and the step-down unit under surveillance. This suggests that sterile drapes were used for 44% of CVC insertions [(874/2009) × 100%]. In the 12 months after the first course and the additional 6 months after the second course, 2021 full-size sterile drapes and 3090 CVCs were used. This suggests that drapes were used for approximately 65% of CVC insertions [(2021/3090) × 100%]. This increase in use of sterile drapes was statistically significant ($P < 0.001$).

## Catheter-Related Infections

The results of surveillance of catheter-related infections are summarized in **Table 3** and the **Figure**.

**Table 3.** **Comparison of the Number of Catheter-Related and Primary Bloodstream Infections during a 2.5-Year Period in Six Intensive Care Units and One Step-Down Unit**

| Period* | Catheter-Related Infections† | Primary Bloodstream Infections | All Infections |
|---|---|---|---|
| | ← | *n* | → |
| 7/95–12/95 | 19 | 39 | 58 |
| 1/96–6/96 | 13 | 47 | 60 |
| 7/96–12/96 | 14 | 33 | 47 |
| 1/97–6/97 | 8 | 35 | 43 |
| 7/97–12/97 | 18 | 22 | 40 |

* The first course was held in June 1996; the second course was held in June 1997.
† Blood cultures were negative or were not done.

The number of catheter-related infections and primary bloodstream infections decreased from an average of 59 per 6-month period ([58 + 60]/2) in the baseline year to 47, 43, and 40 in the two 6-month periods after the first course and the additional 6-month period after the second course. Therefore, the estimated overall decrease in infections was 47 ([59 − 47] + [59 − 43] + [59 − 40]).

Several methods were used to compare infection rates between the baseline and postintervention intervals. When we used the total number of catheter-related infections as the numerator (excluding arterial catheter–related infections [4 in the baseline period, 2 in the postintervention period]) and used the total number of CVCs inserted as the denominator, the infection rates decreased from 5.7% (114 of 2009) to 4.1% (128 of 3090) ($P = 0.01$). The effect of time was evaluated by comparing attack rates per 1000 patient-days and 1000 device-days. After the baseline period, the rate of catheter-related infection decreased steadily in each subsequent 6-month period (**Figure**). In the first 6-month period, infections decreased from 4.51 infections per 1000 patient-days at baseline to 3.53 infections per 1000 patient-days (a 21.7% decrease). In the second 6-month period, 3.27 infections were observed per 1000 patient-days (a 27.5% decrease). In the third 6-month period, 2.92 infections were observed per 1000 patient-days (a 35.3% decrease). The average decrease was 3.23 infections per 1000 patient-days (28%; $P = 0.01$). The corresponding estimated rate changes for device-days, based on a 73% utilization rate for central line devices, would be 3.29 infections per 1000 device-days, decreasing to 2.36 infections per 1000 device-days.

When we compared the baseline and postintervention periods, we found that the seven study units did not differ significantly in number of admissions or severity of illness (data not shown).

## Cost–Benefit Analysis of the Reduction in Catheter-Related Infection

During the first year of the course, supplies cost approximately $25 000, largely because of the mannequins and the CVC kits. The second year's supplies cost approximately $12 000. Almost all physicians teaching the course were fellows; most other faculty were nurses or had salaries equivalent to those of nurses. Using a yearly salary plus benefits of $50 000 as an average cost for the participating faculty, we estimated that each day of faculty time cost approximately $200. For the purposes of this estimate, we did not consider costs of faculty preparation time or lost opportunity. Assuming that the courses involved eight stations with two faculty per station for 3 different course days, the total cost for faculty time was approximately $9600 for 1 year and $19 200 for 2 years. The full-size sterile drapes cost $18 755 (2021 drapes × $9.28 per drape). In the baseline year, the sterile sheets cost approximately $874 ($1.00 per reprocessed drape × 874 drapes). Therefore, the estimated overall cost for the course was $74 081 ($25 000 + $12 000 + $19 200 + [$18 755 − $874]).

We estimated cost savings using two methods. Using the data in **Table 3**, we found that an average of 43 primary bloodstream infections occurred per 6-month period ([39 + 47]/2 = 43) during the baseline year. The estimated total decrease in primary bloodstream infections was calculated by subtracting the number of bloodstream infections during each 6-month period after the course was initiated ([43 − 33] + [43 − 35] + [43 − 22] = 39). A conservative estimate of cost savings was then calculated on the basis of CDC data for the attributable cost of primary bloodstream infection. In 1992 dollars, the attributable cost was $137 163 (39 × $3517) (18). The net savings for these assumptions would be $63 082 ($137 163 − $74 081). A high-end estimate of the cost savings can be made by using data provided by Pittet and Wenzel (4). Pittet and Wenzel calculated the attributable cost of a catheter-related bloodstream infection in an intensive care unit as $28 690 per survivor (4). Assuming that all of the 39 primary bloodstream infections prevented were catheter-related and that 80% of the patients survived (based on chart review; data not shown), the attributable cost in 1994 dollars is $889 390 (31 × $28 690). The net savings for these assumptions would therefore be $815 309 ($889 390 − $74 081).

### Exposure to Blood and Body Fluids

The number of sharps injuries that PGY-1 physicians reported to the employee health department in the year before the first course (15 sharps injuries in 96 PGY-1 physicians [15.6%]) did not differ significantly from that reported in the following year (22 sharps injuries in 114 PGY-1 physicians [19.3%]).

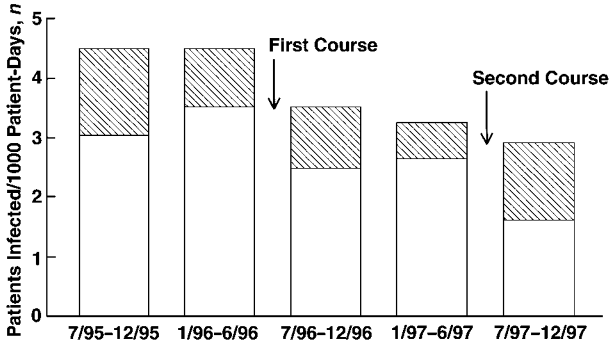


**Figure. Effect of a procedure course on the risk for primary bloodstream infection (*white bars*) and catheter-related infection (*striped bars*) in six intensive care units and one step-down unit.** The course was offered twice; participants were medical students and physicians completing their first postgraduate year. The difference between the total number of infections per 1000 patient-days before the first course (baseline) compared with that after the first course is statistically significant ($P$ = 0.01).

## Discussion

The principle focus of our investigation was to determine whether education of physicians-in-training could increase the use of full-size sterile drapes for CVC insertion and thereby decrease risk for infection. We found that the perceived need for full-size sterile drapes increased (from 33% to 73%), that the perceived need for small sterile towels decreased (from 88% to 53%), and that the actual use of full-size sterile drapes increased (from 44% to 65%). We also noted a 28% reduction in primary bloodstream infection and catheter-related infection. These findings clearly indicate that our educational intervention influenced physician thinking and practice.

To our knowledge, the course design, its use with physicians-in-training, and the documented improvement in patient outcomes (that is, decreased risk for vascular catheter infection) are unique and have not been reported elsewhere. It has been established that traditional, lecture-based instruction can effectively translate knowledge but does not result in meaningful behavioral changes (19). We believe that several unique aspects of our course made it especially likely to promote behavioral changes that would facilitate improved patient outcomes. The small group format, which included direct supervision by an instructor who provided positive and negative feedback in a hands-on learning environment, may have been especially important. The relative inexperience of the PGY-1 physicians (1 of 3 had never inserted a CVC during medical school) and the anxiety associated with their impending internships made them particularly receptive to a practical learning experience and may therefore have contributed to a "teachable moment" (20). The PGY-1 physicians gave the course uniformly high grades, which further suggests that it met recognized personal needs. Finally, because the hospital supported this activity and because fellows and faculty who would be the house officer's immediate supervisors during clinical rotations were involved, the participants knew that the course was of high priority.

Other unmeasured effects may have influenced outcomes. Because faculty actively participated in the course, they may have changed their approach to care of patients and subsequent supervision of physicians-in-training, thereby promoting a more systematic institutional approach. Physicians-in-training who participated in the first year of the course may have provided more effective instruction to PGY-1 physicians during the second year as a result of the course. We did not measure the effect of any changes in physician faculty perceptions that may have occurred secondary to the Health Care Financing Administration guidelines or the Accreditation Council for Graduate Medical Education guidelines on levels of faculty supervision.

The cost implications of the observed reduction in catheter-related infection are impressive. In the 18 months after initiation of the course, we estimated a net savings of at least $55 000; potential savings exceeded $800 000. This represents at least a 167% return on an initial investment of $82 000, which was probably underestimated because we did not evaluate the effect of the course on catheters outside of the monitored units. Additional savings may have been associated with other procedures that were taught during the course but were not measured as part of our course evaluation. Most important, the CDC attributable cost estimates were taken from the Study of the Efficacy of Nosocomial Infection Control (21), which was done primarily in community hospitals and focused on general medicine and general surgery patients, not patients in intensive care units. In contrast, the data from the study by Pittet and Wenzel (4) came from patients in intensive care units at a university hospital. It is therefore reasonable that the attributable costs associated with the patients in the latter study would be much higher and that their patient sample would more closely resemble our sample. Therefore, our attributable costs might more closely resemble those reported by Pittet and Wenzel (4).

Our study may have importance in the broader perspective of medical education. Many years of experience with infection control investigations have shown us that the instruction of physicians-in-training varies widely. The "see one, do one, teach one" method, which is often used, facilitates "creeping substitution" in the ways in which different procedures are done (Dingledein P. Personal communication) and increases the likelihood of adverse outcomes. Ample evidence suggests that adverse outcomes are associated with physicians-in-training (22). Studies of resident physicians performing various procedures, including thoracentesis (23), peripheral venous catheter insertion (24, 25), CVC insertion (26–29), upper gastrointestinal endoscopy (30), sigmoidoscopy (31), and stapedectomy (32), have shown that procedures performed by physicians-in-training have higher complication rates than those performed by more experienced physicians.

These and other concerns have prompted a growing interest in improving the quality of residency training (33). Recent legislation directed toward decreasing the number of hours that physicians-in-training work per week may have decreased patient complications (34). Efforts have been made to determine whether existing training approaches can produce competence (35–39); however, no consensus has been reached on the best way to accomplish this goal. Some physicians-in-training clearly feel that procedural training has been inadequate (40). In at least two recent lawsuits involving such physicians, the central issue was inadequate training and supervision (41–43). One of these lawsuits was decided in favor of the physician-in-training, who was awarded $12 000 000 after she was infected with HIV while inserting a patient's arterial line (43).

The fundamental question is, "Are we educating physicians properly?" Many strategies have been used to educate physicians-in-training, and many have been subjected to rigorous review in the form of randomized trials (19). It is notable that although many randomized trials involving methods for training physicians have shown improvements in processes (44–75) and some have shown associated cost savings (60–73), few have demonstrated improved patient outcomes (74, 75). McDonald and coworkers (74) found that among medical residents, computer reminder messages improved compliance with recommended preventive care measures. In particular, higher rates of influenza vaccination were associated with a decrease in winter hospitalizations and emergency department visits during influenza outbreaks. Vinicor and coworkers (75) demonstrated that educating resident physicians about diabetes led to lower fasting plasma glucose levels, lower hemoglobin $A_{1c}$ levels, and lower systolic and diastolic blood pressure. We believe that medical educators need to focus on developing training methods that improve patient outcomes.

In conclusion, our study demonstrated that a course taken by PGY-1 physicians before they began seeing patients was associated with improved sterile technique and a significantly reduced risk for catheter-related infection. Estimated cost savings associated with this improved patient outcome were at least $63 000. If other investigators can reproduce our findings, particularly in randomized trials, our approach may serve as a new model for ways in which to educate physicians-in-training.

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A snooze then. Iris will sleep deeply. Later, we will listen to carols and Christmas music. And I have the illusion, which fortunate Alzheimer's partners must feel at such times, that life is just the same, has never changed. I cannot imagine Iris any different. Her loss of memory becomes, in a sense, my own. In a muzzy way—the Bulgarian wine, no doubt—I find myself thinking of the Christmas birth, and also about Wittgenstein's comment that death is not a human experience. We are born to live only from day to day. "Take short views of human life—never further than dinner or tea." The Reverend Sydney Smith's advice is most easily taken during these ritualised days. The ancient saving routine of Christmas, which for us today has been twice blessed.

John Bayley
*Elegy for Iris*
New York: Picador; 1999

Submitted by:
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Submissions from readers are welcomed. If the quotation is published, the sender's name will be acknowledged. Please include a complete citation (along with the page number on which the quotation was found), as done for any reference.—*The Editor*