ndwelling urinary catheters are among the most over-
used devices in modern health care. Often consid-
ered routine devices, urinary catheters are placed in
15% to 25% of hospitalized patients (1, 2). They are
frequently inserted in emergency departments, often
without a physician order or appropriate indication (3).
Once hospitalized, many patients remain catheterized
unnecessarily, in some cases because physicians are
unaware of the catheter (4). Urinary catheters are asso-
ciated with urinary tract infections and other infectious
complications related to inappropriate antimicrobial
treatment, resulting in selection and transmission of
multidrug-resistant organisms and Clostridium difficile
infection (5, 6). The noninfectious complications of uri-
nary catheters, such as urethral strictures and erosions,
hematuria, and prolonged immobilization, are often
unrecognized (7).

Although effective interventions to improve urinary
catheter use have been published (8, 9), reducing use
in hospitals has proved difficult. The 2009 Guideline for
Prevention of Catheter-Associated Urinary Tract Infec-
tions from the Centers for Disease Control and Preven-
tion (CDC) (10) provides a list of examples of appropri-
ate and inappropriate indications for indwelling urinary
catheters to help guide facilities in promoting appropri-
ate use. However, because of the lack of published evi-
dence to guide the indications, the CDC list was based
primarily on expert consensus, and some of the indica-
tions have been subject to broad and variable interpre-
tation. One example is the “need for accurate measure-
ments of urine output in critically ill patients” (10), which
is often applied to patients who do not need frequent
(for example, hourly) measurement of urine output to
guide management. In addition, certain conditions,
such as chronic urine retention, and nonindwelling
catheters were not addressed.

Findings by Meddings and colleagues (11) in this Annals supplement address the need for more specific
guidance on appropriate urinary catheter use. Follow-
ing the RAND/UCLA Appropriateness Method, the re-
searchers conducted a systematic review of the litera-
ture and convened a multidisciplinary panel of experts
to rate the appropriateness of various indications for
indwelling, intermittent, and external urinary catheters.
Because of a lack of studies examining risks and bene-
fits of urinary catheters in medical patients, the re-
searchers relied on existing guidelines and intervention
studies to create the list of indications to evaluate. After
a multistage process of ratings by the experts, median
values of appropriateness were calculated and agree-
ment among panel members was ascertained.

Although there were clear areas of consensus
among the panelists, several areas of uncertainty were
apparent. The panel members agreed that specific in-
dications for indwelling urinary catheters are needed in
the intensive care unit, such as the need for measure-
ment of hourly urine output in critically ill patients. How-
ever, the use of catheters for daily urine volume was
also considered appropriate if the urine “cannot be col-
lected/assessed without a catheter.” Unfortunately, this
indication may be influenced by such factors as work-
load and practicality. Although the panelists generally
agreed with the CDC indications for indwelling cath-
ters, they also believed that intermittent or external
catheters were appropriate in specific clinical scenar-
ios. However, uncertainties about the use of external
catheters for incontinence were raised, such as use
upon patient request or for mild cases of skin break-
down. Surprisingly, even among some experts, there
was misunderstanding about the appropriateness of
external catheters for management of urine retention.

The discussions by the panel also emphasized the
need for hospitals to provide support for nurses to fa-
cilitate the use of alternative urinary management strat-
egies in certain patient populations. Although the pan-
els rated both indwelling and external catheters as
appropriate for management of incontinence in pa-
tients who are difficult to turn due to excessive weight,
the discussion revealed a critical need for hospitals to
have proper equipment and resources (such as me-
chanical lifts and lift teams) for turning of obese or
edematous patients to protect the safety of patients
and health care personnel. Hospitals must also ensure
that nurses have adequate time, training, and equip-
ment to perform intermittent catheterization with the
required frequency to safely manage patients with
chronic urine retention.

Meddings and colleagues should be applauded
for their efforts to refine the urinary catheter appropri-
ateness criteria. In the absence of data, their methods
involved a systematic assessment of “the collective
judgment of experts.” As with any consensus-driven
guidance, however, reliance on expert opinion can be
challenging and should include disclosure of potential
conflicts of interest. The findings also reveal important
areas of uncertainty and disagreement among experts’
opinions, particularly with regard to use of external
catheters and patients with chronic urine retention.
When both indwelling catheters and alternatives are
deemed appropriate for a given scenario, studies evalu-
ating patient outcomes using the different ap-
proaches could provide critical information and im-
proved criteria to guide decision making on urinary
management strategies. Such studies would move the
field beyond a reliance on expert opinion and toward a
more evidence-based approach that will ultimately im-
prove patient safety.

Refining the catheter appropriateness criteria will
also help guide evaluation of programs to improve uri-
nary catheter use. Nationally, efforts are under way to
develop a risk-adjusted urinary catheter use metric that
could be used as a comparative quality metric. Under-
standing specific patient characteristics in addition to
patient care locations that influence urinary catheter
use could help guide further refinements of risk adjust-
ment in the future.
SUPPLEMENT

In the meantime, health care facilities can do several things to improve urinary catheter use. Identifying alternative devices for bladder management, such as external catheters, that are easy for nurses to use and making these devices readily accessible to nursing staff would increase the use of these products. In addition, engaging and empowering nurses to remove unnecessary urinary catheters and providing clear parameters and protocols for assessing and managing bladder function after catheter removal are essential (12). Obese or edematous patients require special attention with regard to incontinence management, patient movement, and prevention of pressure ulcers. In particular, hospitals need to ensure that they have the proper equipment to enable the movement of these patients.

Meddings and colleagues have shown that where urinary catheters are concerned, we need to focus on the details—the specifics of patient conditions, needs for monitoring, nursing care processes, available alternatives, and the equipment needed—to make substantial improvements in device use and patient safety.

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