ABOUT THE BORUN CENTER

This training manual presents the work of researchers at the Anna and Harry Borun Center for Gerontological Research, a joint venture between the UCLA School of Medicine and the Jewish Home for the Aging (JHA) of Greater Los Angeles in Reseda.

Established in 1989 and housed at JHA, the Borun Center is an interdisciplinary center for applied research that focuses on creating, testing, and promoting the adoption of behavioral interventions to improve daily care and quality of life in nursing homes. The Center’s mission encompasses three objectives:

- Identify factors that affect the quality of life of frail nursing home residents.
- Develop and test interventions to improve life quality for this population.
- Disseminate these interventions via a website, http://borun.medsch.ucla.edu, as well as through publications, conferences, and collaboration, and ensure their adoption by providing a system of training and expert support.

The Center’s work, designed to help nursing homes make the most of the resources they have on hand to enhance patient care and improve clinical outcomes, is exceptional for several reasons:

- The Center’s interventions address everyday nursing home routines that profoundly impact quality of life for residents, including incontinence management, weight loss prevention, pain assessment, mobility decline prevention, quality-of-life assessment, and pressure ulcer prevention.
- Center interventions in each of these areas have proven effective in research trials, and most were evaluated in randomized controlled trials, the gold standard for research studies.
- The Center’s work has yielded validated, reliable protocols that serve as easy-to-follow step-by-step instructions for implementing resident assessments and daily care interventions. These self-explanatory protocols enable nursing home staff to readily implement the assessments and interventions with minimal need for outside assistance.
- The Center also has developed quality control protocols for managing interventions and ensuring quality of care over time.

To the best of our knowledge, no other research center in the nation can lay claim to a body of work of comparable breadth, depth, and quality.

Under the direction of John F. Schnelle, Ph.D., Borun Center researchers have won wide acclaim for their non-invasive, cost-conscious, and effective methods for enhancing nursing home management and improving quality of life for frail residents. Their work has been funded by 18 grants from the highly selective National Institutes of Health and reported in more than 160 publications in professional books and journals. Ω

--Summer 2004
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ABOUT THIS TRAINING MODULE

This training module presents instructions and tools for preventing pressure ulcers (PU) in nursing home residents. It starts with a list of learning objectives, followed by a discussion of the problem with a summary of its solution.

The next three sections present procedures for the following:

- Pressure ulcer risk assessment
- Preventive care
- Wound assessment

Plan on spending about 20-25 minutes reading this “how to” portion of the module.

Elsewhere in this module—Links, FAQs, Related Studies—we provide guidance and referrals to other resources to help you improve overall PU management within your facility.

And you can go online to chat with other healthcare providers about the topic via our Discussion Board. Visit us at:

http://borun.medsch.ucla.edu

CONTACT US

We have tried to be comprehensive, but if there is something you can’t find, or if you have unanswered questions, comments, or concerns, please feel free to contact us at the Borun Center, 7150 Tampa Ave., Reseda, CA 91335. Telephone: (818) 774-3347; Fax: (818) 774-3346; Email: rahmananna@yahoo.com.
LEARNING OBJECTIVES

At the end of this training module, you will be able to:

- Explain why pressure ulcer (PU) care is of continuing concern to federal nursing home regulators.
- Demonstrate knowledge of the recommended frequency for PU risk assessments and give the rationale for this recommendation.
- List at least two validated instruments for assessing pressure ulcer risk.
- Exercise clinical decision making over which PU risk residents are regularly reassessed.
UNDERSTAND THE PROBLEM, THE SOLUTION

How is pressure ulcer care actually delivered in nursing homes? This overview lays the foundation for improving care and meeting federal standards in your facility.

WHAT WE KNOW ABOUT PRESSURE ULCER CARE—A LOT

A current count shows there are seven—count ‘em, seven—clinical practice guidelines on pressure ulcer care:

- “Pressure Ulcer Prevention” and “Pressure Ulcer Treatment,” both available from the Agency for Health Care Research and Quality (www.ahcpr.gov)
- “Pressure Ulcers” and “Pressure Ulcer Therapy Companion,” both available from the American Medical Directors Association (www.amda.com)
- “Prevention of Pressure Ulcers,” by and available from the Gerontological Nursing Interventions Research Center, Research Dissemination Core (www.nursing.uiowa.edu/centers/gnirc/)
- “Guideline for the Prevention and Management of Pressure Ulcers,” by and available from the Wound, Ostomy, and Continence Nurses Society, Glenview, IL (www.wocn.org)
- “Pressure Ulcer Prevention and Treatment following Spinal Cord Injury: A Clinical Practice Guideline for Health-
Care Professionals,” by and available from the Paralyzed Veterans of America, Washington, D.C. (www.pva.org)

There also are three validated, published pressure ulcer risk assessment instruments available:

- Braden Scale (www.bradenscale.com)
- Gosnell Scale
- Norton Scale

In addition, there are two evidence-based wound assessments tools to choose from:

- PUSH Tool 3.0, available free from the National Pressure Ulcer Advisory Panel (www.npuap.org)
- Bates-Jensen Wound Assessment Tool (formerly the Pressure Sore Status Tool) (http://borun.medsch.ucla.edu)

These guidelines and tools are a testament to how much we know about how best to prevent, treat, and manage pressure ulcers (PU), or the lesions “caused by unrelieved pressure resulting in damage of underlying tissue (1).” Clearly we know a lot.

WHAT WE DON’T KNOW ABOUT PRESSURE ULCER CARE IN NURSING HOMES—A LOT

So how come nursing homes are making such a poor job of PU care? Nationally, the prevalence of PU among nursing home residents is 14% (2) for high-risk individuals, but may range as high

The incidence and prevalence of pressure ulcers in nursing homes is high enough to have sparked concern among regulators, who consider PU rates a measure of the quality of care in nursing homes. As a result, publicly reported quality measures now alert consumers to nursing homes with high PU prevalence rates.

The problem is, that for all we know about ideal PU care, we do not yet know enough about how it actually is delivered in nursing homes. Consider this analogy: Your car breaks down and won’t run. You know there exists somewhere a carefully crafted, thoroughly tested schematic that shows in elaborate detail exactly how your vehicle is supposed to operate. But even if you found that document rolled up in your back seat, by itself it would be useless to you. You need additional information. That is, you need to know what part or parts of your car have failed to operate properly. With that knowledge, and the schematic to guide you, you can focus on quickly fixing the problem. Moreover, you won’t waste time and money fixing things that aren’t broken. It’s time to open the hood and climb under the chassis.

WE DECIDE TO INVESTIGATE

A similar diagnostic process is needed to improve PU care in nursing homes. We know how to prevent, treat, and manage PUs. So where exactly is that care process breaking down in nursing homes? We decided to find out.
The results of this investigation (5) and the recommendations they point to constitute the basis of this training module. We present this information in subsequent sections, but first we want to describe key features of the methodology we used, for as you will see, these strategies are echoed in our recommendations.

WE CONDUCTED OUR OWN ASSESSMENTS

In our exploratory study, we used methodologies comparable to tinkering under a car’s hood and poking around under its chassis. Although we used some secondary data sources, usually medical records, to evaluate PU care in nursing homes, we primarily collected information using our own eyes and ears (and then often used this data to verify information in the medical charts).

We conducted skin assessments, checked at regular intervals to see whether PU risk residents were lying or sitting on pressure reduction surfaces, used wireless thigh movement monitors to find out how often at-risk residents were repositioned, directly observed mealtimes, and asked residents about the incontinence care they received.

Although medical records and especially information from Minimum Data Set (MDS) assessments are widely used to evaluate quality of care in nursing homes, we have repeatedly found this information to be inaccurate. Consequently, we try to use it sparingly, and then only in conjunction with data gleaned from other assessment strategies, such as resident reports and direct observations.

WE USED QUALITY INDICATORS TO EVALUATE CARE

For our “schematic” we used a series of nine quality indicators (QI) related to PU care for nursing home residents (see page 35). Presented as a series of if/then statements, these QIs outline the PU assessment and treatment process, thereby providing a basis for evaluating actual care practices.

It should be noted that these QIs are not, technically speaking, practice guidelines, though they are based closely on existing guidelines. Practice guidelines, such as those listed at the start of this section, “aim to define optimal or ideal care in the context of complex decision-making,” writes RAND, the southern California think tank that helped us developed the QIs. In most nursing homes, however, optimal care is virtually synonymous with impossible care: it almost invariably requires more staff time than most nursing homes can afford and consequently cannot be implemented under usual conditions. So with a nod to real life, the QIs lower the bar. Explains RAND (6): They “set a minimal standard for acceptable care—standards that, if not met, almost ensure that the care is of poor quality.” (Italics ours.)

Based on expert opinion and existing best-practice guidelines, all of our QI-associated PU care tasks are both related to positive outcomes for residents and feasible for nursing home staff to implement. We adopted them as our evaluation checklist, figuring that there should be no excuse for not accomplishing them.
OUR OVERVIEW OF FINDINGS

The study was conducted in 16 nursing homes in Southern California. These facilities comprised two groups: Six of them had scores among the lowest on the MDS quality indicator (QI) “prevalence of PU,” and the remaining 10 had scores among the highest on this QI. Presumably, differences in QI scores are explained by differences in the quality of care provided. Thus, low-prevalence homes supposedly provide better PU care than high-prevalence homes.

Our study disproved this assumption, however. The only difference between the two groups—and it was a small difference—is that the supposedly “bad” nursing homes were doing a better job of documenting wound characteristics and using pressure-reduction surfaces to prevent PU.

But what struck us as more important than the differences between these two groups were their similarities. All 16 nursing homes performed poorly on screening and preventing PUs, though they did better at management once a PU was present.

In the next section, we show you how to target risk reassessments to residents at highest risk of developing a PU.

REFERENCES:

**Pressure Ulcer Risk Assessment**

Learn how to target pressure ulcer (PU) risk reassessments to residents at highest risk. Our system uses objective assessment data to improve clinical decision-making and shape PU care processes that are feasible to implement.

"An ounce of prevention is worth a pound of cure"

Old as it is, this adage wisely sums up one of the major thrusts of efforts to improve pressure ulcer (PU) care in nursing homes: prevent their development from the start. PU prevention can be done, and there are good reasons to do it:

1. For starters, most of us would agree that PU prevention is in the best interests of nursing home residents. After all, the clinical consequences of developing a PU are serious: increased morbidity and mortality, increased risk of infection as well as pain, depression, and stress. This should be reason enough to strengthen PU prevention efforts, but if it’s not, consider this:

2. PU treatment is costly. A report by LUMETRA (1) cites evidence that PU treatment costs in nursing homes exceed $355 million a year, and that estimate was calculated in 1997. Since then healthcare costs have spiraled up.

3. PU prevention is a better buy. Though by no means free, PU prevention can lower treatment costs while improving
clinical outcomes (2). Finally…

4. We’ve listed it fourth, but some nursing homes may consider it the number one reason to beef up PU prevention efforts: Inadequate PU prevention is one of the top two causes for malpractice litigation against nursing homes. A 1999 study found that adherence to PU prevention guidelines could have saved healthcare defendants $11,389,989 in 20 lawsuits (3).

Given these compelling reasons to practice excellent PU prevention, it’s unfortunate that such care is less than optimal in most nursing homes and downright substandard in many. Inadequate staffing is the usual defense against this charge, and it has some merit, for indeed most nursing homes have too few workers to provide proper care of residents (4) and insufficient reimbursement to hire more. But our recent research also suggests that nursing homes can make better use of the staff they have—and improve care—by targeting their services more intelligently.

MORE PU RISK RE-ASSESSMENTS NEEDED

Let’s start with risk assessment, the first step recommended in PU prevention practice guidelines not to mention a federal requirement for nearly all nursing homes. Nursing homes are required to conduct a risk assessment for each new resident upon admission to determine whether the person is in danger of developing a PU.

Practice guidelines recommend use of a validated risk assessment tool such as the Norton Scale or the more widely used Braden Scale (5,6). Our research indicates that when nursing homes complete this step, and document the results, at-risk residents are more likely to get the preventive care they need (7). Roughly 60% of nursing homes conduct this entrance risk assessment and document it (7, 8), not a great showing given the importance of this step.

Where they really miss the mark, however, is with the corollary to this initial step. Though not a federal requirement, best practice guidelines call on nursing homes to re-assess at-risk residents, particularly those who are unable to reposition themselves or have limited ability to do so.

“The condition of an individual admitted to a health care facility is not static,” notes the best-practice guidelines from the Agency for Healthcare Research and Quality (6), “consequently, pressure ulcer risk requires routine re-examination.”

PU prevention guidelines from the University of Iowa Gerontological Nursing Interventions Research Center (5) recommend that at-risk nursing home residents be reassessed “every 48 hours for the first week, weekly for one month, then quarterly, or more frequently if (the resident’s) condition changes.”

BENEFITS OF REASSESSMENTS

The rationale for reassessments is that if PUs are going to develop, they will usually develop within the first two to four weeks of a resident’s admission. In one study, for instance, 28 of 102 newly admitted nursing home residents developed PUs, all of them within four weeks of...
admission (9). Findings from the reassessments can also be used as a foundation for the resident’s skin care plan.

The point to understand is if you skip reassessments of at-risk residents, you’ll undermine your own prevention efforts.

It happens all the time. When we evaluated PU care in 16 nursing homes, we called on facilities to conduct weekly reassessments of at-risk residents for four weeks. Any fewer reassessments of these residents, we believe, amounts to substandard care.

None of the facilities we evaluated passed this quality indicator. Worse yet, none of them even came close. We lowered the bar to two reassessments within the first four weeks of admission and still all the facilities failed.

EXPERIMENT WITH NEW PRACTICE PATTERNS

Why the dismal failure rate? We can think of two possible reasons:

• Nursing home staff are unaware of the importance of PU risk reassessments, and/or

• Insufficient numbers of licensed nurses make it difficult to complete reassessments.

The first impediment is being tackled right now. You for one now know better.

The staffing problem is considerably more difficult to resolve, and as such, demands an institutional willingness to experiment with new practice patterns. Ask yourself this: Would you rather devote staff time to PU prevention or PU treatment? Indications are that the more you do of the first, the less you’ll do of the second—and vice versa. For all the reasons cited at the start of this section, we recommend devoting adequate staff time to delivering preventive care.

INSTITUTE A TRIAGE SYSTEM

To help with PU prevention, consider implementing our “triage system,” presented on the next page.

Be aware that this system has not been tested in a rigorous research trial—not yet anyways. It is based on professional opinion and expertise, driven by the best available evidence. At its heart is an understanding born of experience and research that many nursing homes, given current staffing ratios and reimbursement levels, simply cannot deliver all that we ask of them (though most can come closer than they do). Failure to acknowledge this may fuel widespread deception, as evidenced by the fact that nursing home workers often record care that they never deliver (10, 11). This in turn can lead to poor clinical decision-making, for it discourages the use of objective targeting assessments, which strive to make abundantly clear who needs what (and may not be getting it).

Our triage system stands in contrast to the usual care practices in many nursing facilities. It makes concerted use of objective assessment data so that can you improve clinical decision-making and at the same time shape a care process that is actually feasible to implement.

CONSIDER RISK ASSESSMENT SCORES AND REPOSITIONING ABILITY

Institute a triage system that ensures that the highest risk residents are the first to receive the four weekly reassessments. This system should take into account two types of assessment data:
• The resident’s score on a standardized risk assessment conducted upon admission, and

• The resident’s ability to reposition him- or herself.

With both the Braden and Norton scales, the two most commonly used assessment tools, the lower the resident’s score, the greater the risk of PU development.

WE RECOMMEND THE BRADEN SCALE

Of these two scales, we recommend use of the Braden scale (available free from Prevention Plus, www.bradenscale.com), largely because it has been more extensively tested in nursing homes. It also is commonly used in nursing home research; so if your facility follows suit, you can compare your results to those reported in the literature. The remainder of this section assumes the use of the Braden scale to assess PU risk.

TARGET REASSESSMENTS ACCORDING TO RISK LEVEL

Nursing home residents with a Braden score of 18 or less on admission are considered to be “at risk” for PU (5). Ideally, all these at-risk residents should be reassessed weekly for four weeks following admission. If the numbers render this task impractical, then target first those residents at highest risk.

• Tier 1: Residents with Braden scores below 11

New nursing home residents with Braden scores below 11 are considered to be at very high risk for PU. At the very least then, these new residents should be the first to receive the four weekly reassessments, again using the Braden scale. Results of the reassessments should guide the residents’ care plans.

• Tier 2: Residents with at-risk scores and limited mobility

Primary risk factors for pressure ulcers are immobility and limited activity levels (6). Given this, the second-tier target group should be new residents with Braden scores between 18 and 11 who are chair-fast, bedbound, or unable to reposition themselves. This second-tier group is likely to include the most residents—and may include more residents than necessary because of a tendency among nursing home staff to underestimate the number of residents capable of independently repositioning themselves. Use our Performance Assessment on page 24 to accurately identify those residents who are unable to reposition themselves and are thus at greater risk for PU. This assessment is also discussed in the next section (see page 17).

• Tier 3: All other residents with at-risk Braden scores

All other new residents with Braden scores of 18 or less ideally should be reassessed weekly for four weeks. Those with greater mobility are less at risk, but if their Braden scores signifies risk and staff can manage it, then yes, these residents should be routinely reassessed.

• If necessary, reduce the number of weekly reassessments

If after targeting residents as noted above, the nursing staff still cannot complete all reassessments, then reduce the number of weekly reassessments to two or three
within a four week period. Use residents’ Braden scores to guide the cutbacks, reducing first the number of reassessments for those with higher Braden scores—or less risk. Thus, you should cut back first for tier 3 residents, then for tier 2 residents, and only as a last resort for tier 1 residents, those at greatest risk.

We recognize that use of this “triage system” may result in substandard care for some at-risk residents. This is truly regrettable but possibly unavoidable. If a facility is seriously short-staffed, as many are, then it is naïve to think that the services provided won’t suffer. In such a case, we believe it is ethically and clinically justifiable to concentrate first on providing proper care to those most in need, as determined by objective, valid assessments. This triage plan seems preferable to the usual practice in many nursing homes of providing substandard care to all at-risk residents, a system that virtually ensures that none get what they really need.

TARGETED RESIDENTS NEED EARLY INTERVENTION

Residents targeted to receive routine reassessments during their first month are at high enough risk that they also need early intervention services to prevent PU development. Strategies for strengthening these services are presented in the next section.

ALL OTHER RESIDENTS NEED PERIODIC REASSESSMENTS

PU risk status is subject to change, so residents who do not meet our tier 1-3 risk criteria nevertheless require systematic reassessments. We strongly recommend tying these to quarterly Minimum Data Set (MDS) reassessments to ensure that they are completed. IF the reassessment shows the resident is now at risk of developing a PU (i.e., meets tier 1-3 risk criteria), THEN implement early intervention services (see the next section).

YOUR ASSIGNMENT

Review the medical records of a handful of residents admitted to your facility in the past few months and answer these questions:

- How many residents had an initial pressure ulcer risk assessment?
- What assessment instrument was used?
- How many residents had weekly reassessments in their first month?
- Of those residents who weren’t reassessed, should some have been reassessed based on risk findings from their initial assessment?
- Based on this review, does your facility need to strengthen PU reassessment procedures?

Share your findings; please contact us. We plan to report your feedback for the benefit of others in future updates to this site.

REFERENCES


LET’S REVIEW

In the previous section, we discussed the importance of conducting regular reassessments of newly admitted residents who are found to be at risk of developing pressure ulcers (PU). We recommended that a resident’s initial assessment as well as all reassessments be conducted using a validated, standardized tool, namely either the Norton Scale or the Braden Scale. We also recommended that reassessments be conducted weekly for four weeks following admission, largely because PUs, if they are going to develop, will likely develop during this period (1).

RISK ASSESSMENTS HELP TARGET INTERVENTIONS

The risk assessment and the reassessments serve two purposes. First, they quantify a resident’s PU risk level, so you can monitor whether the person is getting “better” or “worse” over time. Equally important, they help pinpoint the reasons why a resident is at risk, so you can intervene to reduce that risk.

The Braden Scale, for example, assesses six PU risk factors:
- a resident’s sensory perception,
- skin moisture,
• activity level,
• mobility,
• usual food intake, and
• exposure to friction and shear.

Each time you use this scale to assess a resident, you come to know that resident—and his or her risk profile—better. This knowledge, reflected in the ratings for each risk area, enables you to tailor intervention services to this particular individual. This ability not only can improve clinical care and resident outcomes, it can also save staff time, making good care more affordable. How so? Because when you target intervention services to identified needs you avoid the costly mistake of providing unnecessary care.

**FAILURE TO TARGET SERVICES CAN CREATE EXTRA WORK**

It happens: findings from our evaluation of PU care in 16 nursing homes (2) suggest that facilities may be creating extra work for themselves. In this study, we examined PU care for 329 residents whose most recent Minimum Data Set (MDS) assessment had triggered the PU resident assessment protocol (RAP). This RAP is initiated if a resident presents with one or more of seven PU conditions:

• limited bed mobility
• bed-fastness
• bowel incontinence
• peripheral vascular disease
• a stage 1-4 PU
• history of PU in the last 90 days
• use of a trunk restraint daily

Of our 329 PU risk residents, 90% had documented orders that they be repositioned every two hours as a preventive measure. That’s nearly everyone! Even the best staffed nursing homes would struggle to manage this workload.

Routine repositioning, a costly intervention because it is so labor intensive, is recommended in best practice guidelines for PU risk residents who are (and here’s the key phrase) bedfast or who are unable or have limited ability to reposition themselves (3).

Had nursing home staff followed these guidelines, only 64% of the participating residents would have been targeted for repositioning; that’s the percentage assessed in their MDS as bedfast or immobile in bed. But wait: even this percentage may be too high.

In a related study, we found that nursing home staff tend to overestimate residents’ dependency levels for bed mobility. We compared nursing home staff MDS bed mobility ratings to our performance assessment ratings for 197 residents in 27 nursing homes (4). Of the 60 residents we rated as “able to move,” 37, or 62%, were rated by nursing home staff as requiring physical assistance to move. That’s 37 residents who may have been getting staff help they didn’t need and possibly didn’t want.

**FAILURE TO TARGET SERVICES CAN ALSO SHORT-CHANGE RESIDENTS IN NEED**

From a staffing standpoint, overestimating dependency levels, and thus service needs, can be a costly mistake. From a clinical standpoint, it can be disastrous, for it means that
most nursing homes will have targeted more residents than they can provide proper care for. For those who truly need repositioning, the usual upshot is that most will receive substandard care; only a minority will receive services at the level needed.

Our PU care evaluation study bore this out (2). We identified a sub-sample of 98 PU risk residents who were unable to reposition themselves independently, based on our performance assessment. All these residents then were in need of two-hour repositioning to prevent PU development. And all had medical record documentation that they were receiving it. But when we used wireless thigh movement monitors to detect actual repositioning, we found that only 26% of these residents were repositioned an average of every three hours or less. Moreover, their average longest time in one position was 5.6 hours, and ranged from 4 to 12 hours.

Could it be that by trying to do too much for too many, nursing home staff were short-changing those most in need? We think it’s likely.

SO HERE ARE OUR RECOMMENDATIONS

It is no accident that so far we have devoted most of this section to repositioning, for of our early intervention recommendations, this care process is by far the most time consuming and the one most in need of improvement.

Our recommendations for prevention, presented at right, are drawn from a series of nine quality indicators (QI) related to PU care for nursing home residents (see page 35). Presented as a series of if/then statements, these QIs include three that outline an early intervention process for PU risk residents.

As you review them, keep in mind that these QIs are derived from but are not identical to the recommendations in best practice guidelines. Best practice guidelines, such as those available from the American Medical Directors Association and the Agency for Healthcare Quality and Research, “define optimal or ideal care in the context of complex decision-making” (5).

By contrast, our QIs, developed in conjunction with RAND, a Southern California think tank, “set a minimal standard for acceptable care—standards that, if not met, almost ensure that the care is of poor quality” (5). There should be no excuse for not implementing them.

PU QUALITY INDICATORS FOR INTERVENTION

Here they are:

1. IF a nursing home resident is identified as “at risk” for pressure ulcers, THEN prevention addressing repositioning every two hours, pressure reduction, and nutritional status should be documented, unless intolerance or lack of need is noted.

2. IF a nursing home resident is at risk for PU, THEN pressure reduction should be implemented unless intolerance or lack of need is noted.

3. IF a nursing home resident is both at risk for PU and unable to move independently, THEN repositioning every two hours should be implemented, unless intolerance or lack of need is noted.

Let’s briefly discussion each QI.
QI 1: ASSESS FOR PREVENTION NEEDS

The first one is a bit cryptic, but what it means is that, for any at-risk resident (remember: we defined “risk” in the previous section), you need to assess—and document—whether the resident needs any of three possible interventions:

- regular repositioning—recommended for residents who are unable to reposition themselves (we discuss this in more detail below)

- a nutritional consultation and possibly enhanced feeding assistance to improve food and fluid intake—recommended for residents who are under-nourished or at-risk for it. Our training module on weight loss prevention includes instructions and protocols for assessing weight loss risk as well as food and fluid intake. Access it free on our website, http://borun.medsch.ucla.edu.

- use of pressure reduction surfaces on beds and chairs—recommended for all at-risk residents, unless intolerance or lack of need is noted. Pressure reduction surfaces include low air loss beds and foam, air, or gel wheelchair and mattress overlays.

Note that this QI does not recommend automatic implementation of each prevention strategy for every at-risk resident. A particular strategy should be provided only to those residents who need it, based on objective assessment criteria.

QI 2: USE PRESSURE REDUCTION SURFACES

With respect to the second QI, we are happy to report that, for the most part, nursing homes appear to be meeting this standard. In our PU care evaluation study, 84% of the 16 participating nursing homes passed this QI (2). Two possible explanations for such commendable compliance are that use of pressure reduction surfaces typically requires a one-time only placement of a pad or overlay and the visibility of these devices make it easy for supervisors to monitor their use.

There remains, however, room for improvement, especially with respect to the use of wheelchair overlays. Our nursing home observations suggest that staff often stop with the use of mattress overlays and low air loss beds, overlooking the fact that some PU risk residents spend a lot of time in their wheelchairs. Consider this in your assessments and take preventive action when indicated.

QI 3: REPOSITION RESIDENTS WHO NEED IT

First impressions can be deceptive. And nurse aide reports can be inaccurate. Before you assume that a PU risk resident requires help two-hour repositioning, check it out.
Conduct a performance assessment to determine whether residents with mobility limitations are in fact incapable of repositioning themselves independently. Our Performance Assessment, presented below and on page 30, takes about five minutes per resident to complete.

Sound like extra work? In the long run this assessment will likely save staff time. The reason is that, in the absence of an objective assessment, nursing home staff tend to overestimate the number of residents who are unable to reposition themselves, thus creating more work for themselves. In a recent study, for example, we found that, of 144 residents whom nursing home staff had identified as in need of repositioning, 46 residents—about 32%—could in fact independently reposition themselves (4). And we found similar overestimates in a pair of related studies (6).

Our performance assessment can be used to both target PU risk reassessments (see the previous section) and determine who needs routine repositioning. Residents who are capable of independently repositioning themselves are at lower risk of developing PUs.

HOW TO CONDUCT THE PERFORMANCE ASSESSMENT

To conduct our performance test, a licensed nurse should ask residents lying in bed to turn to one side, and then the other side. For each turn, be prepared to offer the resident the minimum level of human assistance possible, according to a standardized graduated assistance protocol:

- Level 0: Request only, no physical assistance required
- Level 1: No physical assistance but encouragement, verbal cues, prompting, or instructions on how to perform the activity (e.g., “Reach for the siderail, pull yourself over”)
- Level 2: Verbal cues required plus minimal manual guidance to start the movement (e.g., “Please move your hand towards the siderail”)
- Level 3: Partial physical assistance (e.g., take arm and move to side rail to turn)
- Level 4: Unable to turn to the side without complete physical assistance

Residents are rated “able to move” if their performance falls within Level 0 or 1 on both sides.

Please note: Some of these “able to move” residents, especially those rated Level 1, will need verbal cuing or reminders to turn (though they don’t need time-consuming physical help). Remember also to provide verbal reminders as needed when residents are in their wheelchairs. Be sure to share performance assessment results with fellow staff workers so they, too, can provide appropriate care.

If residents are rated at higher levels (2-4) on either or both sides, they are considered “unable to move independently” and thus, require physical help from staff with repositioning every two hours.

Use our Performance Assessment Form to document resident results.

This assessment takes about five minutes per resident to conduct (about three minutes per side). Inter-rater reliability is excellent and stability of results is good (4).

TAKE ACTION BASED ON RESIDENTS’ ABILITIES

Once you have more accurate information about residents’ abilities to move independently, you can design more effective movement care plans.
For example, try the following movement care plans:

- Use verbal reminders to move for those residents judged able to independently move but who required verbal cues or encouragement to do so.

- Remember to reposition those residents who are unable to move independently both when in bed and when up in a chair.

- Use verbal reminders for residents who are able to independently move one side of their body (e.g., scored level 0 or 1 when turning to one side but levels 2-4 when turning to the other side). Provide physical help when moving these residents to the impaired side of their body.

**ADDITIONAL RECOMMENDATIONS FOR OPTIMAL CARE**

Again, our QIs represent minimal standards for acceptable care. Best practice guidelines include additional recommendations for improving mobility, enhancing incontinence care, performing regular skin inspections, and conducting other preventative interventions. Ready to review these recommended steps with an eye toward implementation? Then check out these resources:

- Our training module on mobility decline prevention presents instructions and protocols for implementing a fitness program that maintains or improves mobility among even the most functionally impaired residents. The module is available free on our website, [http://borun.medsch.ucla.edu](http://borun.medsch.ucla.edu).

- Best practice guidelines for PU care, including early intervention to prevent PU development, are available from several agencies. We list them on page 43.

**COMING UP: WOUND ASSESSMENT**

What action is required if a resident is admitted with a PU or, despite your best efforts, develops one? The next section discusses procedures for completing an important assessment that is often left incomplete in nursing homes: PU evaluation. Data from this evaluation helps guide interventions, provides a basis for later comparison to evaluate healing, and helps predict time to healing.

**YOUR ASSIGNMENT**

- Identify a handful of residents who have documented orders for two-hour repositioning.

- Use our Performance Assessment form on page to evaluate their ability to reposition themselves.

How did they do? Did you find that some were able to reposition themselves independently? And how did you do with our standardized assessment? Let us know; please contact us. We plan to report your feedback for the benefit of others in future updates to this site.
REFERENCES


Ω
PURPOSE OF A PU EVALUATION

Let’s pick up where we left off in the previous section: What action is required if a nursing home resident is admitted with a pressure ulcer (PU) or, despite your best efforts, develops one? This section discusses procedures for completing an important assessment that is often left incomplete in nursing homes: PU evaluation.

Essentially a wound assessment, PU evaluation is recommended in all the best practice guidelines for several reasons. Data from this evaluation:

- help guide interventions,
- provide a basis for comparison to evaluate healing, and
- help predict time to healing.

What the practice guidelines imply but stop short of spelling out is that if wound assessments are conducted at baseline and regular intervals thereafter, then there’s an excellent chance that PU treatment and management will be carried out in an equally conscientious, clinically
appropriate manner. The wound assessments, in other words, set the stage for—and inform—the procedures that follow.

**INCOMPLETE EVALUATIONS ARE INSUFFICIENT**

A common problem in nursing homes is that facilities set this stage incompletely. *At a minimum,* nursing staff should assess an existing PU for four characteristics:

- wound location
- depth, or stage
- size
- necrotic tissue

In a recent evaluation, we found that nursing home staff documented all four wound characteristics for just 38% of 120 residents with PUs (1). The two most commonly charted characteristics were wound location and stage, which is a measure of the wound’s depth. Both are important: Location can impact clinical interventions and stage is useful for diagnostic purposes. But even when considered together, these characteristics are insufficient to direct an effective treatment plan, or achieve recommended evaluation goals; additional wound characteristics must also be assessed so that clinicians can evaluate and predict time to healing.

**OUR RECOMMENDATION: USE EITHER OF TWO VALIDATED TOOLS**

The best way to ensure that you cover the necessary ground is to use either of two research-validated tools. Both of these enable you to quickly assess wound status so that you can tell whether a PU is getting better or worse over time:

- **PUSH Tool 3.0** (for Pressure Ulcer Scale for Healing), available free from the National Pressure Ulcer Advisory Panel at www.npuap.org.
- **Bates-Jensen Wound Assessment Tool** (formerly the Pressure Sore Status Tool), page 31. Also available free from the Borun Center at http://borun.medsch.ucla.edu.

**THE PUSH TOOL 3.0**

The National Pressure Ulcer Advisory Panel (NPUAP), the developer of PUSH, has this to say about use of its assessment tool:

“NPUAP recommends use of the PUSH Tool at ‘regular intervals.’ The AHCPR Treatment Guideline recommends assessments be performed ‘at least weekly’ and ‘if the condition of the patient or of the wound deteriorates.’ The PRESSURE ULCER HEALING CHART (which is attached to the PUSH Tool) will allow you to graph PUSH Tool scores over time for each ulcer. You should be able to ‘tell at a glance’ whether the ulcer is healing, remains unchanged, or is deteriorating… Any increase in the PUSH Tool score (indicating wound deterioration) requires a more complete assessment of the ulcer and the patient's overall condition (2).”

The PUSH Tool, which monitors a wound’s length and width, exudate amount, and tissue
type, is best used as a method for predicting wound healing. Notes the NPUAP, “In developing specific treatment plans, you will need to assess additional (wound) parameters (2).”

THE BATES-JENSEN WOUND ASSESSMENT TOOL, FORMERLY KNOWN AS THE PRESSURE SORE STATUS TOOL

The Bates-Jensen Wound Assessment Tool (BWAT) captures these additional parameters and so functions as a 2-in-1 tool that both monitors wound healing and yields data useful for plan-of-care development (3-7).

Like PUSH, the BWAT (on page 31) should be used to conduct wound assessments at baseline, then at least weekly thereafter or whenever a change occurs in the wound. The tool evaluates 13 wound characteristics on a five-point rating scale, with lower scores indicating greater desirability.

Following each assessment, scores should be summed and total scores charted on a graph (included with the tool) so that healthcare staff can easily see whether the wound is healing or degenerating. Total scores range from 13 (skin intact but at risk for further damage) to 65 (profound tissue degeneration).

The tool’s 13 assessment items are: size, depth, edges, undermining or pockets, necrotic tissue type, necrotic tissue amount, exudate type, exudate amount, surrounding skin color, peripheral tissue edema, peripheral tissue induration, granulation tissue, and epithelialization. Two additional items, location and shape, are noted but not scored.

BWAT-BASED TREATMENT GUIDELINES

A resident’s total BWAT score can be categorized as one of four “severity states” to guide care planning. Presented below, these severity states and their associated treatment goals are presented as a generic guideline for developing treatment plans. Clinicians, however, ultimately remain responsible for individualizing each resident’s care plan.

- **BWAT Minimal Severity Scores 13-20**
  Pressure sores with a BWAT total score of 13 –20 are generally stage I lesions with intact skin at high risk for altered integrity or shallow stage II, partial thickness pressure sores. The main goals for wounds in this severity state are to prevent further damage and to provide a moist wound environment for healing.

- **BWAT Mild Severity Scores 21-30**
  Pressure sores with mild severity include both partial thickness wounds and full thickness wounds. The goals of care for partial thickness wounds with mild severity scores are to absorb excess wound exudate, maintain a clean wound bed, and maintain a moist environment. Full thickness wounds with mild severity scores offer more options for treatment as the wound can present as a clean full thickness wound or as a wound filled with necrotic debris. The goals of care for full thickness wounds with mild severity scores are to obtain or maintain a clean wound bed, provide a moist environment, absorb excess exudate, prevent premature closure, and reduce wound dead space. Wounds with mild (and moderate) severity scores have the most clinically diverse presentations and so choices regarding treatment are numerous.

- **BWAT Moderate Severity Scores 31-40**
  Wounds in this severity state are predominantly full thickness stage III or
IV pressure sores. Goals of care are to obtain or maintain a clean wound bed, absorb excess exudate, eliminate dead space to prevent premature wound closure, and provide a moist wound environment.

- **BWAT Severity Scores 41-65**
  Wounds with BWAT total scores in this range are generally stage III or IV full thickness pressure sores with more severe clinical manifestations, including undermining and necrosis. The generic treatment plan for these wounds is some method of debridement. The goals of care are to identify and treat infection, obtain or maintain a clean wound bed, absorb excess exudate, eliminate dead space to prevent premature wound closure, and provide a moist wound environment.

**IN-SERVICE TRAINING RECOMMENDED**

Regardless of which assessment tool your facility adopts, you should offer in-service education to make sure nursing staff know how to use the tool correctly. It helps to demonstrate proper use with actual residents. It’s also a good idea to arrange for experienced users and new users to assess a few of the same residents on the same day so that they can compare results. If wide or consistent scoring discrepancies occur, both users should discuss their results in the context of the tool’s scoring instructions and try to reach consensus for conducting subsequent assessments.

**PRESSURE ULCER TREATMENT**

As noted at the start of this section, wound assessment sets the stage for PU treatment. A detailed discussion of recommended treatment strategies is beyond the scope of this training module. Besides, it’s not needed: A number of clinical practice guidelines already cover that territory. We recommend that you check them out. They’re listed on page 43.

Visit the National Pressure Ulcer Advisory Panel website, www.npuap.org, for additional information and education on PU treatment. Also, check out these pages on the website:

- Frequently asked questions, page 37
- Related studies, page 40
- Links, page 43

As always, feel free to contact us via our website, http://borun.medsch.ucla.edu, if you have answered questions or need other information.

**YOUR ASSIGNMENT**

Assess at least one resident with a pressure ulcer using the PUSH Tool 3.0 and one with the BWAT. Do you have a preference for one tool or the other? Consider the pros and cons of each tool. Which do you think would be most useful for improving PU care practices in your facility?

Share your thoughts with us; please contact us via our website, http://borun.medsch.ucla.edu. We will report your feedback in updates to the site.
REFERENCES


STEP 1: PRESSURE ULCER RISK ASSESSMENT


STEP 2: PERFORMANCE ASSESSMENT

- Performance assessment to evaluate ability to reposition self, pg. 30

STEP 3: WOUND ASSESSMENT


QUALITY INDICATORS FOR PRESSURE ULCER CARE

- Pressure Ulcer Quality Indicators, Data Sources, Eligibility, and Scoring Rules, page 35.

We worked with researchers at RAND, a southern California think tank, to develop a series of nine quality indicators (QI) related to pressure ulcer care for nursing home residents. Presented as a series of if/then statements, these QIs outline minimally acceptable care for the prevention and assessment of pressure ulcers.

Based on expert opinion and existing best-practice guidelines, all of our QI-associated assessment and treatment tasks are both related to positive outcomes for residents and feasible for nursing home staff to implement. Use the QI form on page to evaluate pressure ulcer care in your facility. Ω
PERFORMANCE ASSESSMENT TO EVALUATE ABILITY TO REPOSITION SELF

Resident Name: __________________________ Date: __________ / _________ / _________

**Purpose:** To determine whether a resident is capable of independently repositioning him- or herself. This assessment should be conducted by a licensed nurse.

**Instructions:** Ask the resident to “please turn to one side in bed.” Be prepared to offer the resident the minimum level of human assistance possible, according to a standardized graduated assistance protocol:

- **Level 0:** Request only, no physical assistance required
- **Level 1:** No physical assistance but encouragement, verbal cues, prompting, or instructions on how to perform the activity (e.g., “Reach for the siderail, hold the siderail and pull yourself over on your side”)
- **Level 2:** Verbal cues required plus minimal manual guidance to start the movement (e.g., “Please move your hand towards the siderail”)
- **Level 3:** Partial physical assistance (e.g., take hand and move to siderail to start turn)
- **Level 4:** Unable to turn to the side without complete physical assistance

Repeat the assessment for turning to the other side.

Record Results for right and left turns below:

<table>
<thead>
<tr>
<th>Level 0: Request only, no physical assistance required</th>
<th>Level 1: No physical assistance but encouragement, verbal cues, prompting, or instructions on how to perform the activity</th>
<th>Level 2: Verbal cues plus minimal manual guidance to start the movement</th>
<th>Level 3: Partial physical assistance</th>
<th>Level 4: Unable to turn without complete physical assistance</th>
<th>Independent (Levels 0, 1)</th>
<th>Dependent (Levels 2-4)</th>
<th>ABLE TO MOVE? (Levels 0, 1 for BOTH sides)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Right Turn</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Left Turn</td>
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</tr>
</tbody>
</table>

**Interpretation:** For each side, rate resident as “independent” if performance falls within Level 0 or 1, and “dependent” for performance at higher levels. If the resident is rated as “independent” for BOTH right and left sides, consider the resident as “able to move.” If the resident is rated as “dependent” for EITHER side, consider the resident as “unable to move.”

**Other:** This assessment takes about five minutes per resident to conduct. Inter-rater reliability is excellent and stability of results is good (1). The assessment should be repeated whenever there is change in the resident’s condition and at periodic intervals (e.g., quarterly).

**Reference:**
BATES-JENSEN WOUND ASSESSMENT TOOL

Instructions for use

General Guidelines:

Fill out the attached rating sheet to assess a wound’s status after reading the definitions and methods of assessment described below. Evaluate once a week and whenever a change occurs in the wound. Rate according to each item by picking the response that best describes the wound and entering that score in the item score column for the appropriate date. When you have rated the wound on all items, determine the total score by adding together the 13-item scores. The HIGHER the total score, the more severe the wound status. Plot total score on the Wound Status Continuum to determine progress.

Specific Instructions:

1. **Size**: Use ruler to measure the longest and widest aspect of the wound surface in centimeters; multiply length x width.

2. **Depth**: Pick the depth, thickness, most appropriate to the wound using these additional descriptions:
   - 1 = tissues damaged but no break in skin surface.
   - 2 = superficial, abrasion, blister or shallow crater. Even with, &/or elevated above skin surface (e.g., hyperplasia).
   - 3 = deep crater with or without undermining of adjacent tissue.
   - 4 = visualization of tissue layers not possible due to necrosis.
   - 5 = supporting structures include tendon, joint capsule.

3. **Edges**: Use this guide:
   - Indistinct, diffuse = unable to clearly distinguish wound outline.
   - Attached = even or flush with wound base, no sides or walls present; flat.
   - Not attached = sides or walls are present; floor or base of wound is deeper than edge.
   - Rolled under, thickened = soft to firm and flexible to touch.
   - Hyperkeratosis = callous-like tissue formation around wound & at edges.
   - Fibrotic, scarred = hard, rigid to touch.

4. **Undermining**: Assess by inserting a cotton tipped applicator under the wound edge; advance it as far as it will go without using undue force; raise the tip of the applicator so it may be seen or felt on the surface of the skin; mark the surface with a pen; measure the distance from the mark on the skin to the edge of the wound. Then use a transparent metric measuring guide with concentric circles divided into 4 (25%) pie-shaped quadrants to help determine percent of wound involved.

5. **Necrotic Tissue Type**: Pick the type of necrotic tissue that is predominant in the wound according to color, consistency and adherence using this guide:
   - *White/gray non-viable tissue* = may appear prior to wound opening; skin surface is white or gray.
   - *Non-adherent, yellow slough* = thin, mucinous substance; scattered throughout wound bed; easily separated from wound tissue.
   - *Loosely adherent, yellow slough* = thick, stringy, clumps of debris; attached to wound tissue.
   - *Adherent, soft, black eschar* = soggy tissue; strongly attached to tissue in center or base of wound.
   - *Firmly adherent, hard/black eschar* = firm, crusty tissue; strongly attached to wound base and edges (like a hard scab).

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Complete the rating sheet to assess wound status. Evaluate each item by picking the response that best describes the wound and entering the score in the item score column for the appropriate date.

**Location:** Anatomic site. Circle, identify right (R) or left (L) and use "X" to mark site on body diagrams:

- Sacrum & coccyx
- Trochanter
- Ischial tuberosity
- Lateral ankle
- Medial ankle
- Heel
- Other Site

**Shape:** Overall wound pattern; assess by observing perimeter and depth.

Circle and date appropriate description:

- Irregular
- Round/oval
- Square/rectangle
- Linear or elongated
- Bowl/boat
- Butterfly
- Other Shape

<table>
<thead>
<tr>
<th>Item</th>
<th>Assessment</th>
<th>Date Score</th>
<th>Date Score</th>
<th>Date Score</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. Size</strong></td>
<td>1 = Length x width &lt;4 sq cm</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2 = Length x width 4--&lt;16 sq cm</td>
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<td></td>
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<tr>
<td></td>
<td>3 = Length x width 16.1--&lt;36 sq cm</td>
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<tr>
<td></td>
<td>4 = Length x width 36.1--&lt;80 sq cm</td>
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<tr>
<td></td>
<td>5 = Length x width &gt;80 sq cm</td>
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<tr>
<td><strong>2. Depth</strong></td>
<td>1 = Non-blanchable erythema on intact skin</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>2 = Partial thickness skin loss involving epidermis &amp;/or dermis</td>
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<td></td>
<td>3 = Full thickness skin loss involving damage or necrosis of</td>
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<tr>
<td></td>
<td>subcutaneous tissue; may extend down to but not through underlying</td>
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<td></td>
<td>fascia; &amp;/or mixed partial &amp; full thickness &amp;/or tissue layers</td>
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<tr>
<td></td>
<td>obscured by granulation tissue</td>
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<td></td>
<td>4 = Obscured by necrosis</td>
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<tr>
<td></td>
<td>5 = Full thickness skin loss with extensive destruction, tissue necrosis or</td>
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<td></td>
</tr>
<tr>
<td></td>
<td>damage to muscle, bone or supporting structures</td>
<td></td>
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<tr>
<td><strong>3. Edges</strong></td>
<td>1 = Indistinct, diffuse, none clearly visible</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>2 = Distinct, outline clearly visible, attached, even with wound base</td>
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<td></td>
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</tr>
<tr>
<td></td>
<td>3 = Well-defined, not attached to wound base</td>
<td></td>
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<tr>
<td></td>
<td>4 = Well-defined, not attached to base, rolled under, thickened</td>
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<tr>
<td></td>
<td>5 = Well-defined, fibrotic, scarred or hyperkeratotic</td>
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<tr>
<td><strong>4. Undermining</strong></td>
<td>1 = None present</td>
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<tr>
<td></td>
<td>2 = Undermining &lt; 2 cm in any area</td>
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<tr>
<td></td>
<td>3 = Undermining 2-4 cm involving &lt; 50% wound margins</td>
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<tr>
<td></td>
<td>4 = Undermining 2-4 cm involving &gt; 50% wound margins</td>
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<td></td>
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<tr>
<td></td>
<td>5 = Undermining &gt; 4 cm or Tunneling in any area</td>
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</tr>
<tr>
<td><strong>5. Necrotic Tissue Type</strong></td>
<td>1 = None visible</td>
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<td></td>
</tr>
<tr>
<td></td>
<td>2 = White/grey non-viable tissue &amp;/or non-adherent yellow slough</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>3 = Loosely adherent yellow slough</td>
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<tr>
<td></td>
<td>4 = Adherent, soft, black eschar</td>
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<td></td>
</tr>
<tr>
<td></td>
<td>5 = Firmly adherent, hard, black eschar</td>
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<td></td>
<td></td>
</tr>
<tr>
<td><strong>6. Necrotic Tissue Amount</strong></td>
<td>1 = None visible</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2 = &lt; 25% of wound bed covered</td>
<td></td>
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<tr>
<td></td>
<td>3 = 25% to 50% of wound covered</td>
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<tr>
<td></td>
<td>4 = &gt; 50% and &lt; 75% of wound covered</td>
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<tr>
<td></td>
<td>5 = 75% to 100% of wound covered</td>
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<tr>
<td><strong>7. Exudate Type</strong></td>
<td>1 = None</td>
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</tr>
<tr>
<td></td>
<td>2 = Bloody</td>
<td></td>
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<tr>
<td></td>
<td>3 = Serosanguineous: thin, watery, pale red/pink</td>
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<tr>
<td></td>
<td>4 = Serous: thin, watery, clear</td>
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<tr>
<td></td>
<td>5 = Purulent: thin or thick, opaque, tan/yellow, with or without odor</td>
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<tr>
<td></td>
<td>Exudate Amount</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>None, dry wound</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Scant, wound moist but no observable exudate</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Small</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Moderate</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Large</td>
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</tbody>
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<table>
<thead>
<tr>
<th></th>
<th>Skin Color Surrounding Wound</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Pink or normal for ethnic group</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Bright red &amp;/or blanches to touch</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>White or grey pallor or hypopigmented</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Dark red or purple &amp;/or non-blanchable</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Black or hyperpigmented</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Peripheral Tissue Edema</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>No swelling or edema</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Non-pitting edema extends &lt; 4 cm around wound</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Non-pitting edema extends ≥ 4 cm around wound</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Pitting edema extends &lt; 4 cm around wound</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Crepitus and/or pitting edema extends &gt; 4 cm around wound</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Peripheral Tissue Induration</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>None present</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Induration, &lt; 2 cm around wound</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Induration 2-4 cm extending &lt; 50% around wound</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Induration 2-4 cm extending ≥ 50% around wound</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Induration &gt; 4 cm in any area around wound</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Granulation Tissue</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Skin intact or partial thickness wound</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Bright, beefy red; 75% to 100% of wound filled &amp;/or tissue overgrowth</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Bright, beefy red; &lt; 75% &amp; ≥ 25% of wound filled</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Pink, &amp;/or dull, dusky red &amp;/or fills ≤ 25% of wound</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>No granulation tissue present</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Epithelialization</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>100% wound covered, surface intact</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>75% to &lt;100% wound covered &amp;/or epithelial tissue extends &gt; 0.5 cm into wound bed</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>50% to &lt;75% wound covered &amp;/or epithelial tissue extends to &lt; 0.5 cm into wound bed</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>25% to &lt; 50% wound covered</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>&lt; 25% wound covered</td>
<td></td>
</tr>
</tbody>
</table>

**TOTAL SCORE**

**SIGNATURE**
Plot the total score on the Wound Status Continuum by putting an "X" on the line and the date beneath the line. Plot multiple scores with their dates to see-at-a-glance regeneration or degeneration of the wound.

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**PRESSURE ULCER QUALITY INDICATORS, DATA SOURCES, ELIGIBILITY, AND SCORING RULES**

<table>
<thead>
<tr>
<th>QUALITY INDICATORS: IF a Nursing Home resident:</th>
<th>ELIGIBILITY*, DATA SOURCE†, &amp; SCORING RULES</th>
<th>Pass</th>
<th>Fail</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Is unable to reposition him or herself, or has limited ability to do so, THEN perform risk assessment with a standardized scale on admission &amp; weekly for first 4 weeks.</td>
<td>Scoring Rules: Pass (original indicator) = documentation of risk assessment within 1 week of admission &amp; then weekly during the first four weeks. Pass (revised indicator) = documentation of risk assessment within 1 week of admission. Risk assessment scales include the Braden Scale(^{11}), the Norton scale(^{16}), or a facility-created scale with at least 3 risk factors.</td>
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</tr>
<tr>
<td>2a. Is identified as “at risk” for PUs‡, THEN address: 2 hour repositioning, pressure reduction, &amp; nutritional status unless not needed or tolerated.</td>
<td>Scoring Rules: Pass = nurse aide flow sheets, licensed provider notes, physician’s orders, or the care plan note the 3 interventions. Nurse aide flow sheets with a check-off box for repositioning which include frequency are acceptable. Any nutritional assessment is acceptable.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2b. Is identified as “at risk” for PU development, THEN implement pressure reduction.</td>
<td>Data Source: Direct Observation Scoring Rules: Pass = observed on pressure reduction (e.g., low air loss bed, foam, air, or gel wheelchair or mattress overlays) on any 1 hourly observation from 7am—7pm.</td>
<td></td>
<td></td>
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<tr>
<td>3. Is found with a PU, THEN assess nutritional status within 1 week.</td>
<td>Eligible: Resident with presence or history of PUs‡ Scoring Rules: Pass = any nutritional assessment if within 1 week of first recorded notice of the PU.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Is found to have a PU, THEN assess the PU for: 1) location, 2) depth/stage, 3) size, &amp; 4) necrotic tissue.</td>
<td>Eligible: Resident with presence or history of PUs Scoring Rules: Pass = Licensed provider admission assessment, progress notes, or treatment records note all 4 wound characteristics.</td>
<td></td>
<td></td>
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<tr>
<td>5. Has a PU, THEN a topical antiseptic should not be used on the wound.</td>
<td>Eligible: Resident with presence or history of PU (stage II-IV). Scoring Rules: Pass = physician’s orders or licensed nurse treatment records or weekly summary indicate no topical antiseptic used on the wound.</td>
<td></td>
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<tr>
<td>6. Has a clean full-thickness or a partial thickness PU, THEN a moist wound healing environment should be provided with topical dressings.</td>
<td>Eligible: Resident with presence or history of clean PU (stage II-IV). Scoring Rules: Pass = physician’s orders or licensed nurse treatment records or weekly summary indicate a moist wound dressing was applied.</td>
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<tr>
<td>7. Has a full thickness PU with no improvement in 4 weeks, or a partial thickness PU with no improvement in 2 weeks, THEN re-assess the treatment plan and stage III/IV PU for cellulitis or osteomyelitis.</td>
<td>Eligible: Resident with presence or history of PU with no improvement in 2 weeks (stage II) or 4 weeks (stage III-IV). Scoring Rules: Pass = physician’s orders or notes, or licensed nurse treatment records or weekly summary indicate a treatment change or assessment for cellulitis or osteomyelitis.</td>
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<tr>
<td><strong>8.</strong> Has a full thickness, trunkal PU covered with necrotic tissue, THEN debridement interventions should be instituted within 3 days of diagnosis.</td>
<td>Scoring Rules: Pass = physician’s orders or progress notes, or licensed nurse treatment records or weekly summary indicate debridement.</td>
<td></td>
<td></td>
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<tr>
<td><strong>9.</strong> Has a full thickness PU covered with necrotic tissue and systemic infection, THEN sharp debridement, blood cultures, initiation of antibiotic therapy, and resident and wound assessment should be done by primary care provider.</td>
<td>Scoring Rules: Pass = physician’s orders or progress notes indicate any one of the following: evaluation of the resident and PU, blood cultures ordered, or antibiotics prescribed, and any type of debridement in progress.</td>
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</tr>
</tbody>
</table>

† All indicators should be scored with medical record data unless otherwise indicated.
‡= If multiple PUs are present, evaluate the highest stage PU.
**Frequently Asked Questions**

**Q: Do we have to assess all residents for pressure ulcer risk?**

**A:** Yes, a risk assessment should be conducted for all residents upon admission to the facility. For those residents who are judged at risk, with Braden scores below 18, “follow along” assessments should be performed weekly for the next four weeks. Thereafter, residents should be re-assessed periodically, such as quarterly with their MDS re-assessment.

**Q: How do I document that scheduled repositioning is unnecessary for a resident who is judged at risk for pressure ulcers?**

**A:** Conducting our turn-in-bed physical performance test (on page 30) is one way to document that a resident does not need to be repositioned. Once this assessment test is completed, document the results in the medical record as the rationale for not putting the resident on a scheduled repositioning program.

**Q: How do I monitor implementation of a pressure ulcer prevention program?**

**A:** One of the easiest interventions to monitor is use of pressure reduction surfaces on beds and wheelchairs. Start with a list of the residents who are most at risk for pressure ulcers (PU) and consequently should be on pressure reduction surfaces. At least once a week, check each of
these residents’ beds and, most importantly, their wheelchairs for the presence of a pressure reducing surface. If any surfaces are missing, find out why and take corrective action.

Methods for evaluating and monitoring feeding assistance for nutritionally at-risk residents, many of them also at risk for PU, are presented in the weight loss prevention module available on our website, http://borun.medsch.ucla.edu.

Other PU prevention interventions are more difficult to monitor, especially repositioning. Several innovative methods have been tried. One involves placing color-coded pads underneath high-risk residents who require two-hour repositioning. The different colors correspond to different time periods. Thus, for example, red may signify 8-10 a.m., yellow, 10 a.m. to noon, and so on. A supervisor can tour the facility and quickly spot residents who are sitting on the wrong color, presumably because they haven’t been repositioned on schedule.

One administrator attached post-it notes on the right and left trochanters of residents who needed repositioning. The notes read, "Come find me when you find this note." As the nurse aides found the notes and reported to the supervisor, she was able to track the time intervals between notifications.

A movement monitoring device may soon be available to allow continuous movement monitoring of those residents at highest risk. Until that time, creative approaches and diligent attention are the keys to success.

We know that when we pay attention to specific work processes and provide feedback to staff, those work processes improve. This means that making rounds of the residents who need repositioning, noting their location (e.g., in bed or in a chair) and positioning (e.g., lying on left side, right side, etc.), and then providing immediate feedback to staff based on your observations may be enough of a stimulus to motivate staff to consistently implement repositioning interventions.

**Q: Shouldn’t we consider all residents who trigger the pressure ulcer RAP to be at high risk for developing a pressure ulcer?**

**A:** No. The seven items that trigger the pressure ulcer (PU) Resident Assessment Protocol (RAP) do not constitute a validated assessment of PU risk. Compared to validated risk assessment tools such as the Braden scale, the PU RAP is a blunt instrument. About 60% of nursing home residents will trigger the PU RAP. In most facilities, a lower percentage will be deemed at risk for PU when a validated risk assessment tool is used.

Because of differences in what they assess, you should not assume that residents who trigger the PU RAP are at risk for PU development. At the same time, you should not assume that residents who do not trigger the PU RAP are not at risk of PU development.

The best way to evaluate a resident’s risk for PU is to use a validated assessment tool such as the Braden Scale, the Gosnell Scale, or the Norton Scale.

A comparison of their assessment items highlights the differences between the RAP triggers and a validated assessment tool for PU risk. The PU RAP is initiated whenever a resident presents with one or more of seven conditions:

- Limited bed mobility
- Bed-fastness
- Bowel incontinence
- Peripheral vascular disease
- A stage 1-4 PU
- History of PU in the last 90 days
- Use of a trunk restraint daily

The items that appear on PU risk assessment instruments are quite different. While the Braden scale, for example, assesses for mobility and bed-fastness, its other four items look nothing like the RAP triggers. It asks users to rate the following resident risk factors on a four-point scale:

- Mobility (assesses mobility in bed)
- Activity level (assesses for bed-fastness)
- Sensory perception
- Skin moisture
- Nutrition
- Friction and shear

**Q**: Should we automatically schedule for repositioning any resident who triggers the pressure ulcer Resident Assessment Protocol (RAP)?

**A**: No. We’ve seen evidence that this is a common practice in some nursing homes, but it’s not recommended.

Routine repositioning, a costly intervention because it is so labor intensive, is recommended in best practice guidelines for pressure-ulcer (PU) risk residents who are bedfast or who are unable or have limited ability to reposition themselves. Many of the estimated 60% of nursing home residents who trigger the PU RAP are capable of independently repositioning themselves, and thus do not need staff assistance with this task.

The best way to determine who needs repositioning is to conduct a performance assessment that evaluates a resident’s ability to reposition him- or herself. Residents who are capable of independently repositioning themselves are at lower risk of developing PUs. Our performance assessment (on page 30) can be used to determine who needs routine repositioning.

The assessment takes about five minutes per resident to complete, but in the long run can save staff time. The reason is that, in the absence of an objective assessment, nursing home staff tend to overestimate the number of residents who are unable to reposition themselves, thus creating more work for themselves. In a recent study, for example, we found that, of 144 residents whom nursing home staff had identified as in need of repositioning, 46 residents—about 32%--could in fact independently reposition themselves (1).

**References**

RELATES STUDIES

- **Quality Indicators for Pressure Ulcer Prevention and Management for Vulnerable Older Persons**

This paper presents a set of 11 quality indicators for the prevention and care of pressure ulcers (PU) among vulnerable elders and the evidence supporting these indicators.

Quality indicators were proposed based on an extensive literature review and were assessed for validity by a 12-member panel of clinical experts. Each panelist rated each indicator for validity twice then met to discuss each indicator and the evidence and opinions supporting its validity as a measure of quality. Indicators that received a median rating in the highest tertile without panel disagreement were accepted as valid.

Ten quality indicators were judged valid by the expert panel and one additional indicator was created by the panel. These indicators, the author notes, “set a standard that, if not met, almost certainly identifies poor quality care.” The quality indicators presented in this paper provide a baseline for measures that may discriminate between quality and substandard PU care in nursing homes.
• **Standardized Quality Assessment System to Evaluate Pressure Ulcer Care in the Nursing Home**

Pressure ulcers (PUs) are an important quality measure in nursing homes because they are common, often preventable, and associated with morbidity, mortality, and other quality of care problems. This paper describes nine quality indicators that reflect PU care processes determined by expert consensus to be related to positive outcomes (i.e., are valid) and feasible to implement in NHs (see page ). The quality indicators have been operationalized into a standardized system that incorporates explicit measurement protocols and scoring rules. Indicator scores based on direct observation and medical record data for 191 residents in eight nursing homes are presented to illustrate how conclusions can be drawn about the quality of PU care using the indicators and standardized scoring system. The focus of the indicators on care processes that are under the control of nursing home staff makes the protocol useful for both external survey and internal quality improvement purposes.

• **The Minimum Data Set Pressure Ulcer Indicator: Does it Reflect Differences in Care Processes Related to Pressure Ulcer Prevention and Treatment in Nursing Homes**

This study showed that, despite assumptions to the contrary, nursing homes with low prevalence rates for pressure ulcers (PU) do not provide better PU care than homes with high prevalence rates. In general, all 16 nursing homes in this study performed poorly on screening and preventing PUs, though they did better at management once a PU was present.

The study examined 16 quality indicators related to PU care in two groups of nursing homes: Six homes with a high prevalence of PU and 10 with a low prevalence of PU. Prevalence of PU as reported in Minimum Data Set (MDS) resident assessments is a publicly reported quality measure for nursing homes. The assumption is that differences in prevalence rates reflect differences in quality of care. Thus, low PU prevalence homes are presumed to provide better care than high PU prevalence homes.

This study, however, found few differences between the two nursing home groups. Homes with low PU prevalence rates did not provide better care. Nursing homes with higher rates of PU, however, were more likely to use pressure-reduction surfaces and were better at documenting wound characteristics.

• **The Effects of an Exercise and Incontinence Intervention on Skin Health Outcomes in Nursing Home Residents**

This randomized controlled study evaluated whether a combined exercise and incontinence intervention improved skin health outcomes for nursing home residents. Four risk factors related to skin health—urinary and fecal incontinence, physical activity, and skin wetness—did improve, but did not translate into significant improvements in most measures of skin health. There was no difference between the intervention and control groups in the incidence
rate of pressure ulcers. However, those residents who improved the most on fecal incontinence showed improvement in pressure ulcers in one area.

For the study, 190 incontinent residents in four nursing homes were divided into intervention and control groups. With intervention residents, research staff provided exercise and incontinence care every two hours from 8 a.m. to 4:30 p.m., five days a week for 32 weeks. The control group received usual care from nursing home staff.

The authors conclude that even if nursing homes had adequate staffing resources, they might not be able to improve skin health quality indicators significantly if they attempt to implement preventive interventions on all residents who are judged at risk because of their incontinence status.
<table>
<thead>
<tr>
<th>RELATED LINKS AND RESOURCES</th>
</tr>
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</table>

### PRACTICE GUIDELINES

**Agency for Healthcare Research and Quality**
Clinical Practice Guidelines: Pressure Ulcer Prevention and Pressure Ulcer Treatment
http://www.ahcpr.gov/clinic/cpgonline.htm

**American Medical Directors Association**
Clinical Practice Guideline: Pressure Ulcers
http://www.amda.com/info/cpg/pressureulcer.htm

**American Medical Directors Association**
Clinical Practice Guideline: Pressure Ulcer Therapy Companion
http://www.amda.com/info/cpg/pressureulcertherapy.htm

**Paralyzed Veterans of America**
Pressure Ulcer Prevention and Treatment following Spinal Cord Injury: A Clinical Practice Guideline for Health-Care Professionals
www.pva.org

**University of Iowa Gerontological Nursing Interventions Research Center**
Practice Guideline: Treatment of Pressure Ulcers
http://www.nursing.uiowa.edu/centers/gnirc/protocols.htm

**Wound, Ostomy, and Continence Nurses Society**
Guideline for the Prevention and Management of Pressure Ulcers
www.wocn.org
OTHER RESOURCES

Braden Scale (for assessing pressure ulcer risk)
http://www.bradenscale.com/freeproducts.htm

Centers for Medicare and Medicaid Services
Nursing Home Quality Initiative
http://www.cms.hhs.gov/quality/nhqi/

Lumetra
Resources for Nursing Homes
http://www.lumetra.com/nursinghomes/resources/index.asp

MedQIC, an online resource sponsored by the Centers for Medicare & Medicaid Services
Clinical Resources: Pressure Ulcers
http://www.medqic.org/content/nationalpriorities/nursinghome/nhTopics.jsp?topicID=413&nhID=1028719

National Guideline Clearinghouse
A public resource for evidence-based clinical practice guidelines
http://www.guidelines.gov

National Pressure Ulcer Advisory Panel
http://www.npuap.org/Default.htm Ω
PRESSURE ULCER PREVENTION QUIZ

Instructions: Check the best answer.

1. One important reason to prevent the development of pressure ulcers is:
   a. ____ The clinical consequences of developing a pressure ulcer are serious.
   b. ____ It is expensive to treat pressure ulcers.
   c. ____ Inadequate efforts to prevent pressure ulcers is one of the top two causes for malpractice suits against nursing homes.
   d. ____ All of the above

2. Which of the following residents should be assessed for pressure ulcer risk upon admission to a nursing home:
   a. ____ All residents
   b. ____ Only residents who trigger the pressure ulcer Resident Assessment Protocol (RAP)
   c. ____ Only residents with a history of pressure ulcers
   d. ____ Only residents who are bedfast or have limited mobility

3. One validated instrument for assessing an individual’s risk for pressure ulcers is:
   a. ____ The Resident Assessment Protocol (RAP) for pressure ulcers
   b. ____ The PUSH Tool 3.0
   c. ____ The Braden Scale
   d. ____ All of the above

4. Residents found to be at risk for developing a pressure ulcer should be reassessed weekly for how many weeks:
   a. ____ No reassessments needed
   b. ____ 1-2
   c. ____ 3-4
   d. ____ 5-6

5. According to best practice guidelines, residents who are deemed at risk of developing a pressure ulcer should be evaluated for which of the following:
   a. ____ Two-hour repositioning
   b. ____ Use of pressure reduction surfaces
   c. ____ Nutritional status
   d. ____ All of the above
6. **Two-hour repositioning is needed for which of the following residents:**
   a. ____ Residents who trigger the pressure ulcer Resident Assessment Protocol (RAP)
   b. ____ Residents found to be at risk of developing a pressure ulcer based on findings from a validated risk assessment tool
   c. ____ Only at-risk residents who are bedfast or unable to independently reposition themselves
   d. ____ All of the above

7. **Use of pressure reduction surfaces on beds and wheelchairs is recommended for which of the following residents:**
   a. ____ Residents who trigger the pressure ulcer Resident Assessment Protocol (RAP)
   b. ____ Residents found to be at risk of developing a pressure ulcer based on findings from a validated risk assessment tool
   c. ____ Only at-risk residents who are bedfast or unable to independently reposition themselves
   d. ____ All of the above

8. **Wound assessments are recommended for residents who develop pressure ulcers because:**
   a. ____ They help guide interventions
   b. ____ They provide a basis for comparison to evaluate healing
   c. ____ They help predict time to healing
   d. ____ All of the above

9. **One validated wound assessment tool is:**
   a. ____ The Norton Scale
   b. ____ The Resident Assessment Protocol (RAP) for pressure ulcers
   c. ____ The BWAT (Bates-Jensen Wound Assessment Tool)
   d. ____ The Gosnell Scale

10. **Which of the following organizations publishes clinical practice guidelines for preventing pressure ulcers:**
    a. ____ The Agency for Health Care Research and Quality
    b. ____ The American Medical Directors Association
    c. ____ The Gerontological Nursing Interventions Research Center
    d. ____ All of the above

Answers: 1. d, 2. a, 3. c, 4. c, 5. d, 6. c, 7. b, 8. d, 9. c, 10. d