

GENERAL GYNECOLOGY

Geriatric gynecology: promoting health and avoiding harm

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Gynecologists will invariably face rising numbers of older women in their practice, whose care is in a precarious situation. Per the Institute of Medicine, “The nation faces an impending health care crisis as the number of older patients with more complex health needs increasingly outpaces the number of health care providers with the knowledge and skills to adequately care for them.”¹ Obstetrician-gynecologists are well positioned to provide excellent care to older women. Quality of life and functional independence, central issues in geriatric care, are a natural part of the specialty’s focus. This article reviews key clinical issues introduced by aging, aspects of gynecologic care unique to older women, and perioperative recommendations to reduce morbidity and enhance function.

Aging matters

Contrary to prevailing stereotypes, older patients typically discuss only a minority of their many health problems, and may not inform their gynecologist about important disorders. Common, often unreported conditions relevant to gynecologic care are listed in Table 1. Prevalence rates vary widely by definition and population. For example, in noninstitutionalized persons aged 70-89 years the prevalence of mild cognitive impairment is 4-70%, depending on the criteria used.⁴

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Age increases vulnerability, commonly accompanied by greater reliance on others and susceptibility to maltreatment. Physiologic processes become less resilient; the potential for harm from medical care increases. Awareness of frailty, functional, social, and potential maltreatment issues enables early referrals to help the patient maintain her independence. Health issues that may impede both gynecologic care and self-sufficiency include sensory deficits, physical disability, and cognitive impairment. Speaking slowly and providing contextual information enhance patient comprehension. Cancer screening depends on life expectancy. Osteoporosis treatment requires managing fall risk. Gynecologic symptoms more likely have multiple contributing factors than one etiology. Incontinence is a particularly complex issue, but invariably includes bladder diary assessment and pelvic floor muscle training. Function and frailty measures best predict perioperative morbidity. Communication with the patient, her family, other providers, and health care organizations is an important frontier in avoiding errors and adverse outcomes.

Key words: frailty, geriatric gynecology, older women, perioperative care, urogynecology

Rates in Table 1 are approximations in community-dwelling elderly.

The goals of care for a robust, fully functional older adult are essentially the same as for younger persons: screen for problems, treat conditions, and provide preventive services. In those with physical frailties, multiple comorbidities, or cognitive decline, the primary goal shifts to optimizing function and quality of life. Thus, the provider must make an effort to fully understand the patient’s level of function. The encounter might best start with, “What do you enjoy doing? Does anything prevent you from doing what you would like?”

The 4 domains of function listed in Table 2 should be given at least brief consideration in every encounter with an older patient. This will ultimately save time through more effective care, since the abilities to hear, see, comprehend, and manage one’s own life are fundamental to the type of care needed, and changes can be expected in this population. Formal functional status screening in all women age >75 years is indicated in primary care; an assistant can easily accomplish this.¹⁸ For gynecologic specialty care, simply being aware of possible deficits in these areas improves care.

Communication with older patients

Real-world executive functions and comprehension do not typically decline with age. Abilities that do decline include speed of information processing, learning and recall of new information, finding words, and reaction time.¹⁹ Distractions impair attention more readily. Learning “nonsense” words, such as medical terms, is enhanced by connecting new information to something familiar. Physicians should speak slowly and clearly, eliminate interruptions, repeat information, relate new information to old, write down medical terms and instructions, and confirm what the patient understands. Rate of speech and providing context for the information are particularly important.

Patients often mask dementia well, conversing easily with no gaps or sentence fragments. Critically considering cognition early in a visit can avoid taking an unreliable history or giving fruitless instructions. Answers that lack specificity signal a possible impairment. Numerous screening tools have been validated; 3 are listed in Table 2. The Mini-Cog is affected little by language, educational, and cultural differences. The Six-Item Screener and Naming Test are easily remembered.

TABLE 1
Prevalence of underreported conditions in older persons

Condition	Prevalence	
	70-79	≥80
Age, y		
Undernourishment (risk of malnutrition) ²	2% (>10%)	5% (40%)
Cognitive impairment/dementia ³⁻⁵	10%	40%
Vision impairment ⁶	11%	25%
Hearing impairment ⁶	17%	45%
Balance impairment ⁶	69%	89%
Maltreatment (physical, emotional, financial, sexual abuse; abandonment; neglect, self-neglect) ⁷	5-14%	
Dysphagia ⁸⁻¹⁰	15-30%	
Frailty ^{11,12} (range)	22% (5-58%)	

Miller. *Gynecologic care of older women. Am J Obstet Gynecol* 2012.

Frailty

Frailty is an emerging concept with wide health implications.²⁰ Early recognition offers a chance to intervene, improving vigor and prolonging independence. Frailty is a state of progressive decline and dysregulation of molecular, cellular, and physiologic systems. When a critical number of impairments develops in mobility, strength, balance, motor processing, cognition, nutrition, endurance, and/or physical activity, a person becomes “frail.”¹¹ She is more vulnerable to disability, dependency, falls, and death. Definitions vary, but having 3 of 5 conditions—muscle weakness, poor endurance, low physical activity, slow gait speed, and significant weight loss—should prompt consideration of referral.²¹

Cancer screening

Even when disease prevalence is higher, the utility of cancer screening decreases in advanced age, primarily due to competing causes of mortality and lead time from detection to symptoms. Inconsistencies in guidelines are not surprising, since data are sparse in this heterogeneous demographic. Upper age limit guidelines from selected organizations are listed in Table 3. If life expectancy is <5 years, screening is contraindicated.³⁰ Up to age 95 years the top quartile of life expectancy for women exceeds 5 years (Figure), illustrating the complexity of screening decisions in the elderly. As a generalization, screening may reasonably conclude be-

tween the ages of 70-80 years for women of average health.³¹

New cervical cancer screening guidelines have been released by the American Cancer Society and the US Preventive Services Task Force, which are under review by the American College of Obstetrics and Gynecology.^{23,24} All 3 organizations recommend against vaginal cancer screening after a total hysterectomy without cervical intraepithelial neoplasia ≥2. For colon cancer screening, guidelines are presented for colonoscopy, which is just one of several options. In competent hands, colonoscopy carries low risks of perforation (1/1000), serious bleeding (3/1000), and cardiorespiratory events (5/1000).³²

Outpatient gynecologic care

Examination

Observe the patient to assess strength, mobility, and the ability to follow instructions. Rising from a chair without using arms (arms crossed over chest, hands on shoulders) shows leg strength and balance, and gives insight into physical fitness or frailty. Much information is gained from observing the patient get onto the examination table without assistance.

Pelvic examination

The utility of a pelvic examination (without Papanicolaou [pap] smear) in older women is unknown. Dangerous pathology is rarely detected in the cognitively intact, healthy, asymptomatic person.

TABLE 2
Possible impairments to consider in every older patient

Domain	Instrument	Screening comments
Cognition	Mini-Cog ¹³	3-word recall with intervening clock-drawing test. Affected little by language or education. Positive screen is abnormal clock or failure to recall 3 words.
	Six-Item Screener ^{14,15}	3-word recall and orientation to day, month, year. Positive screen is >3 incorrect items (>4 if illiterate, >2 if higher education).
	Naming Test ¹⁶	Name as many items as possible in given category (eg, animals) in 1 min. Positive screen is <14; <18 is suspicious.
Functional living	ADL/IADL ¹⁷	Difficulty with bathing, transferring, walking, doing light housework, shopping, or managing finances screens for impairment, which should be further investigated.
Vision	Informal	Query visual difficulty with driving, watching television, reading. Have patient read newsprint.
Hearing	Whisper Test	At 12-18 in away, patient closes eyes, whisper 4 single numbers. Should identify ≥2.

ADL, basic activities of daily living; IADL, instrumental activities of daily living.

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TABLE 3
Guidelines for cancer screening in older women

Screening test	Organization	Recommendations
Cervical cytology	ACOG ²²	Low risk, discontinue age 65-70 y if ≥ 3 consecutive negative pap smears, no abnormal results in 10 y. If risk factors, continue annual screening (multiple partners, HIV+, immunosuppression, DES in utero). Screen at least 20 y after CIN 2-3.
	ACS ²³	Discontinue age >65 y if no CIN ≥ 2 in 20 y and adequate negative prior screening. ^a Screening should not resume for any reason, including new sexual partner.
	USPSTF ²⁴	Discontinue age >65 y if low risk and adequate negative prior screening. ^a
HPV		Age >65 y no prognostic data. ²²
Mammogram	ACOG ²⁵	Annual screening, no age limit. Age >75 y consider life expectancy.
	ACS ²⁶	Annual screening, no age limit if good health and candidate for treatment.
	USPSTF ²⁷	Biennial age 50-74 y. Age >75 y insufficient data to assess benefits and harms.
Colonoscopy ^b	ACOG ²⁸	Every 10 y for average-risk women.
	ACS ²⁶	Every 10 y unless comorbidity would preclude treatment.
	USPSTF ²⁹	Ages 76-85 y no routine screening but consider life expectancy; no screening age >85 y.

ACOG, American College of Obstetricians and Gynecologists; ACS, American Cancer Society; CIN, cervical intraepithelial neoplasia; DES, diethylstilbestrol; HIV, human immunodeficiency virus; HPV, human papillomavirus; USPSTF, US Preventive Services Task Force.

^a Adequate negative prior screening is 3 consecutive negative cytology results or 2 consecutive negative cotests (cytology + high-risk HPV DNA) within past 10 y, 1 of them within 5 y; ^b Of several options for colorectal cancer screening.

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Nonetheless, a symptom or concern is commonly revealed only during the pelvic examination. Examination may be even more important in cognitively impaired women.³³ Position carefully for hip and knee problems, usually with foot supports maximally extended lengthwise. The assistant should bring extra pillows if the patient has dorsal kyphosis; one is rarely adequate. Topical lidocaine applied to the vestibule for tenderness or anxiety is usually nonirritating and facilitates examination. To determine the full extent of pelvic organ prolapse (POP) a standing examination is usually required, especially in the frail and cognitively impaired.

Osteoporosis

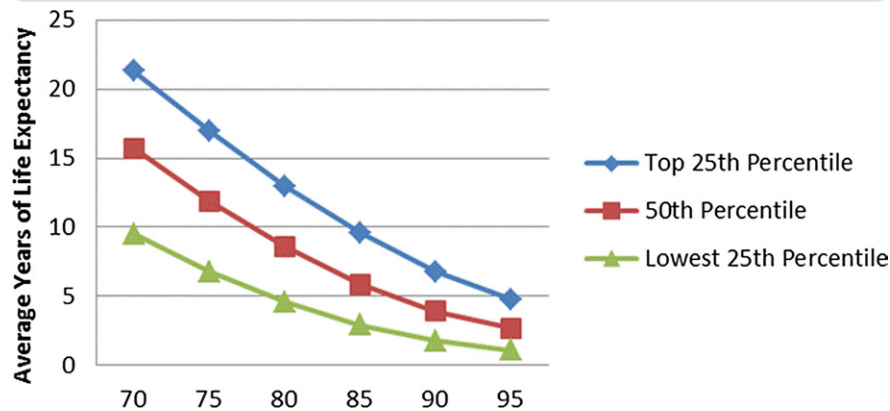
The annual cost of caring for fragility fractures in the United States exceeds that of treating cardiovascular disease. The impact of vertebral or hip fractures on a woman's quality and even quantity of life can hardly be overstated. Only half of women who experience a hip fracture ever regain their prefracture function. Preventive care in older women must address issues of bone mineral density (BMD), vitamin D, fracture risks, and fall risks.

Multiple expert groups recommend screening women for osteoporosis with bone densitometry beginning at age 65 years. Low BMD is not required to diagnose osteoporosis in postmenopausal women who sustain a low trauma fracture or have significant kyphosis with multiple risk factors.³⁴ If BMD is low, medications that accelerate bone loss should be carefully reconsidered. Secondary causes of osteoporosis should be ruled out, notably in the elderly hypercalciuria, hyperparathyroidism, and malabsorption.³⁵ Aerobic exercise, resistance exercise, and walking slow the loss of spinal BMD.³⁶ The benefits of pharmacologic treatment for osteoporosis usually outweigh potential risks even in frail elderly if life expectancy is ≥ 2 years.³⁴ Screening for vitamin D deficiency in community-dwelling women age >65 years is becoming a standard of care. For a serum 25-hydroxy vitamin D level of <20 ng/mL, typical repletion regimens use 50,000 IU of cholecalciferol (vitamin D3) once or twice weekly for 6-12 weeks, then ongoing monitoring.^{34,37}

More than half of hip fractures occur in women who do not have osteoporosis by bone densitometry; >90% occur with

falling.³⁸ Advanced age, previous fragility fracture, and low BMD are the strongest independent predictors of fracture; age is even more important than BMD. Additional validated risk factors are long-term glucocorticoid use, low body weight, family history of fracture, cigarette smoking, and excessive alcohol use.³⁹ The online FRAX World Health Organization Fracture Risk Assessment Tool incorporates age, BMD, and other factors into an individualized 10-year fracture probability calculation (<http://www.shef.ac.uk/FRAX/>). Previous falls; strength, gait, and balance impairments; and medications are the strongest fall risk factors.⁴⁰ Additional ones include the use of assistive devices; arthritis; impairment in basic activities of daily living, vision, or cognition; fear of falling; depression; and age >80 years. Drugs most associated with falling are psychotropics, anticonvulsants, and antihypertensives. Referral to a fall risk reduction program, physical therapist, or geriatrics specialist is a consideration for fall or fracture risk factors. Adequate vitamin D intake and physical therapy for progressive balance and strength training are advisable for virtually all those at risk. In

FIGURE
Top, middle, and lowest quartiles of average life expectancy in older women



At selected ages 70-95 years.

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vitamin D deficiency central processing of sensory information is impaired; supplementation likely reduces falls.⁴¹ Physical therapy regimens that combine balance training with other components (strength, gait, endurance, and/or tai chi) can reduce falls 20-45%.⁴⁰

Benign breast disease

Mastalgia can be the presenting symptom for medical conditions or disease in nonlactational structures, such as vasculature, connective tissue, lymphatics, and nerves.⁴² The most urgent extramammary etiology to consider is angina. Others are cholecystitis, hiatal hernia, gastroesophageal reflux disease, herpes zoster, postherpetic neuralgia, intercostal neuralgia, cervical radiculopathy, costochondritis (Tietze syndrome), and venous thrombophlebitis (Mondor disease). Breast lesions could be manifestations of metastatic lung cancer, Wegener granulomatosis, sarcoidosis, other skin diseases, tuberculosis, or even syphilis.

Lower abdominal pain

“Lower abdominal pain—rule out gyn pathology” is a fairly common referral. While reproductive organs uncommonly cause pain in the elderly, myofascial pain is common and often overlooked. Also called “chronic abdominal wall pain,” the diagnosis and treatment of this prob-

lem are simple and inexpensive.⁴³ Proper diagnosis can eliminate repeated imaging as well as fear. Diverticulitis, constipation, functional bowel disease, neuropathy, herpes zoster, nephrolithiasis, abdominal wall hernia, and pelvic tuberculosis are considerations. Fecal impaction should always be ruled out.

Postmenopausal bleeding

The differential diagnosis of postmenopausal bleeding in older women includes neglected pessary, cervical or rectal polyp, urethral prolapse, vulvovaginal cancer, and a number of other nonuterine conditions that require care. Thus, even women in long-term care facilities merit evaluation. The risk of cancer is higher in women age >70 years.⁴⁴ Endometrial cancer incidence peaks between age 70 and 80 years, with a relative increase in the more aggressive type II cancers in older ages.⁴⁴⁻⁴⁶ Office endometrial biopsy and transvaginal sonography are both about 98-99% sensitive for neoplasia. Particularly the type II cancers, which arise in an atrophic endometrium, can be missed by sonography.⁴⁷⁻⁵²

If the cervix is too stenotic for an office biopsy and the endometrial stripe is ≤4 mm, it is reasonable to assume a benign cause rather than have the patient undergo a surgical procedure, while not losing the patient to follow-up. Further

evaluation as needed may be an interval ultrasound, repeated attempt at office biopsy, or hysteroscopy with endometrial sampling.⁴⁶ Vaginal or oral misoprostol 100-200 μg can be given safely to older patients not taking other prostaglandin agonists, but probably does not facilitate cervical dilation in postmenopausal women.^{53,54} Hammoud et al⁵⁵ reported a creative approach to endometrial sampling using ultrasound-guided transvaginal, transmural aspiration.

Vulvovaginitis

Both aging and long-term estrogen deficiency increase vulvar susceptibility to trauma and decrease vulvar immune function.⁵⁶ The most common symptomatic vulvar and vaginal conditions in the elderly are typical postmenopausal ones such as atrophy, lichen sclerosus, and candidiasis. In older ages, multiple contributing factors are common and should be sought, for example, atrophy plus irritation from pads and prolonged sitting, or lichen sclerosus with candidiasis and a secondary bacterial infection in a diabetic.

If a patient referred for “atrophic vaginitis refractory to estrogen” is not sexually active, the problem is probably a vulvar dermatosis. Vulvar architecture gives important clues. Absence of distinct labia minora can be found in advanced atrophy, but is more often due to a dermatosis or condition with chronic inflammation. Biopsy specimen for diagnosis is preferred, but a trial of therapy based on clinical impression is appropriate. Other than topical estrogen, treatment is usually moderate-to-high potency topical glucocorticoids. Following symptom resolution, daily application of a barrier ointment such as solid vegetable or mineral oil will minimize further trauma, reduce symptoms, and delay recurrence.

The incidence of vulvar cancer rises exponentially after age 65 years. Invasive vulvar cancer is also on the rise in all age groups for unclear reasons.⁵⁷ The extent to which lichen sclerosus is precancerous is debated, but this condition warrants examination at least annually even when asymptomatic.⁵⁸ Indications for biopsy are the same as in younger women: asymmetry, border irregularity, color variation,

rapid change, bleeding, nonhealing ulceration, persistence, and lack of a firm diagnosis.

Chronic vaginal discharge that has not responded to the usual creams and antibiotics may indicate inflammatory vaginitis. Purulent vaginal discharge is uncommonly due to chronic endometritis caused by cervical stenosis or from an enterovaginal fistula, particularly if she has had diverticulitis. In both cases the discharge is malodorous.

Urogynecologic issues

Urinary tract infection

Urinary tract infection (UTI) is the most frequent bacterial infection in the elderly. Management is complicated by diagnostic uncertainty, polypharmacy concerns, more resistant organisms, and host factors that reduce treatment efficacy. A short 3-day course of antibiotics is less likely to be curative than in younger women, although this does usually treat uncomplicated cystitis.⁵⁹ Trimethoprim-sulfa and fluoroquinolones are acceptable agents. Nitrofurantoin is not contraindicated but is avoided when possible because renal insufficiency is common in aging. Medication interactions should be reviewed. For instance, sulfonamides displace warfarin from plasma proteins. For recurrent UTIs, postvoid residual urine volume (PVR) measurement, topical estrogen, and urine cultures and sensitivities prior to initiating treatment are indicated.

A test of cure culture following treatment is contraindicated if symptoms have resolved, because treatment of asymptomatic bacteriuria (ASB) is contraindicated in older women.⁶⁰ However, in frail elderly the "symptom" might be lethargy, irritability, vague discomfort, or a fall, making this determination difficult. Urinary incontinence may be symptomatic of infection or completely unrelated. If incontinence worsened recently, a positive urine culture favors UTI (should be treated) over ASB (should not be treated), but since incontinence waxes and wanes ASB is still possible. If a trial of antibiotics is undertaken, ask the patient or family to report the impact on symptoms immediately rather than rely on memory weeks later.

Urinary incontinence—evaluation

Urinary incontinence in older women usually has several contributing factors, and successful treatment addresses as many as possible. Typical lower urinary tract age-related changes include more detrusor overactivity and underactivity, decreased bladder sensation, and lower urethral closure pressure.⁵⁸ Comprehensive evaluation and management of this complex condition in older women can be found in a number of excellent reviews and chapters.⁶¹⁻⁶³ A few points are noted here.

Geriatric incontinence evaluation begins with understanding its impact on that patient's quality of life and daily function. With increasing age, comorbidities, and duration of incontinence, successful treatment may be amelioration of only the most distressing symptom(s). Evaluation includes medication review; examination for neurologic conditions; determination of mobility and dexterity issues; and assessment of medical conditions such as peripheral edema, diabetes, and hypercalciuria. Initial or concurrent management with a primary care provider may be needed. Fecal impaction should be ruled out, and fecal incontinence (FI) queried. A bladder diary should always be obtained if possible, even if a patient's ability to complete one is unclear. Clues about cognition, literacy, and/or motivation usually emerge.

Opinion is divided about the utility of measuring PVR. PVR increases with age, and no specific volume predicts pathology or requires treatment.⁶⁴ Anecdotally, once-daily self-catheterization reduces the PVR over time, thereby improving incontinence. In the absence of continence surgery, an elevated PVR usually indicates impaired detrusor contraction rather than outlet obstruction. Causes include idiopathic detrusor underactivity, diabetes, vitamin B12 deficiency, and central nervous system lesions. Since outlet obstruction is not usually a factor, even with anterior vaginal wall prolapse, the upper urinary tract is rarely at risk of damage from high voiding pressures. Stage III-IV POP can, however, cause obstruction at the ureterovesical junction, which is more likely

with older age and uterus in situ.⁶⁵ Although screening for hydronephrosis/hydronephrosis is not considered standard of care, it is appropriate for prolapse beyond the hymen, especially for stage IV.⁶⁶⁻⁷⁰

Nocturia impairs quality of life and increases fracture risk.⁷¹ Etiology can be generally categorized as a bladder, fluid, or sleep problem. The latter 2 should be investigated prior to medicating the bladder. Nocturnal polyuria has multiple interacting physiologic and medical causes in the elderly.⁷² Nocturnal urine output fails to diminish as it does in the nonelderly, which compounds any polyuria caused by medical conditions. Patients may strictly limit evening fluid intake without perceptible improvement. A bladder diary will clarify total daily, diurnal, and nocturnal urine output. Sleep problems can usually be assessed with history alone, such as, "When was the last time you considered yourself to be a good sleeper?" A bladder diary will show some of the nocturnal voided volumes to be smaller than her diurnal capacity. Bladder relaxants are only indicated in patients with overactive bladder symptoms unresponsive to behavioral management, since all have anticholinergic effects. Tricyclic antidepressants (imipramine) should be avoided in the elderly.⁷³ Regardless of nocturia etiology, a bedside commode may improve quality of life and reduce risks.

Urinary incontinence—treatment

Differentiation of urge and stress incontinence can be difficult in elderly women, due to multiple contributing factors and an increased prevalence of mixed incontinence.⁷⁴ Fortunately, establishing an exact mechanism is not necessary for initial treatment. Behavioral therapy benefits stress, mixed, and urge urinary incontinence.^{58,75} Pelvic floor muscle training (PFMT) can effect significant improvement even if the patient's contraction is weak. Far from being a sign of futility, a weak "Kegel" suggests a good chance for improvement with modest strength increase.⁷⁶ The important determination is whether she can or cannot contract her pelvic floor at all, and a weak

contraction is often missed. Detection is enhanced using a rectal examination, coaching the patient to relax, then having her contract her muscle to avoid passing gas. Reexamining her contraction at subsequent visits best reinforces the importance of PFMT.

Bladder relaxants are effective in older women, but anticholinergic medications may impair cognition and function.⁷⁷ Low doses and periodic review are critical. No one bladder relaxant is invariably preferable in the elderly. Although some newer medications have shown less cognitive impact than oxybutynin, the few randomized trials contain methodological flaws, primarily high oxybutynin doses that would never be used in geriatric practice.⁷⁸⁻⁸⁰ Once daily (oral) or twice weekly (transdermal) administration improves adherence, but very long half-lives carry a risk of drug accumulation. Immediate-release medications are useful in treating incontinence that is episodically problematic. For instance, oxybutynin 2.5 mg or tolterodine 1 mg before church or a bus ride may achieve the necessary control.

Fecal incontinence

Few medical symptoms are as distressing and socially isolating for older people as FI. FI is rarely volunteered and providers fail to inquire, leading to a downward spiral of distress, dependency, and poor health.⁸¹ A common self-care strategy is reducing activity or exercise, markedly counterproductive for healthy aging.⁸² Rectal urgency is particularly associated with incontinence.⁸³ FI is a risk factor for nursing home placement, but the fundamental problem is the person's inability to manage the incontinence herself due to cognitive or physical impairment.^{84,85}

Even when known, FI is often poorly assessed and passively managed in older women. In frail women fecal impaction is a common etiology.⁸¹ After impaction is ruled out, PFMT and skin care can be recommended pending further evaluation. A thorough evaluation entails an appraisal of predisposing factors, medications, and medical conditions, and a comprehensive

physical examination. FI treatments are marginally better than placebo in many controlled studies.⁸⁶ However, in one study combined PFMT, behavioral strategies, diet, and pharmacotherapy resulted in 50% improvement in over half of participants, mean age 59 years.⁸⁷ Biofeedback using 3 different modalities effected modest improvement in symptoms and quality of life in 70% of studied patients, mean age 62 years.⁸⁸

Pessaries for POP

Older women motivated to avoid surgery are excellent pessary candidates.⁸⁹ Pessary fitting and management remains an art. Specific measurements such as the pelvic organ prolapse quantification (POP-Q) do not adequately inform pessary choice.⁹⁰ Size of the genital hiatus, vaginal length, hysterectomy, pelvic reconstructive surgery, parity, and specific organ descent have been variably associated with successful or unsuccessful pessary fitting.⁸⁹⁻⁹² Continuation is associated with older age and treatment of prolapse rather than incontinence; discontinuation is associated with previous hysterectomy or prolapse repair and a large posterior vaginal wall prolapse.^{89,92-97} However, no constellation of characteristics adequately describes the successful user; any woman of any age is a potential candidate.

Most older women can learn to change (remove, cleanse, reinsert) their own pessary, even through their ninth decade. Dental floss can be tied through the pessary to aid in removal; a perforation can be safely created in most pessaries. The patient unable to remove her own pessary should be seen a short time after placement (1-3 days). Continuing to change her pessary at least monthly would be ideal, but intervals may be as long as 3 months before excessive leukorrhea and odor occur. Estrogen-releasing vaginal rings are useful. Cube pessaries are particularly prone to vaginal wall erosion, even after pretreatment with estrogen, and good follow-up is essential.

Immediate potential complications include pain, bleeding, urinary reten-

tion, defecatory dysfunction, and urethral mucosal prolapse. The rare major complications occur mainly in elderly women due to a neglected or forgotten pessary. Factors include prolonged use (years to decades), vaginal atrophy, advanced age, cognitive impairment, change in health care provider, and residence transition. Erosion into or through the vaginal wall causes most major complications, such as pessary incarceration, vesicovaginal fistula, rectovaginal fistula, intraperitoneal bowel complications (rupture, obstruction), uremia, pyelonephritis, septicemia, cervical incarceration, small bowel prolapse and incarceration, and myiasis.⁹⁸⁻¹⁰⁹ Pressure can cause hydronephrosis, ureteral obstruction, and uremia.¹¹⁰⁻¹¹² Chronic inflammatory reaction has been implicated in vaginal cancers.¹¹³ Removal of an impacted pessary is facilitated by vaginal estrogenization, and bone cutters have been useful.^{114,115}

Few long-term care facilities have personnel who change pessaries, although this is within the scope of nursing practice after appropriate training. Some facilities work with a knowledgeable nurse practitioner. Occasionally, a family member can accomplish this. Unfortunately, pessary changes usually require an office visit. Patients with dementia typically do well, but may incur distress. Topical lidocaine applied at the introitus and/or intravaginally alleviates fear and confusion. If anxiety persists, surgery may be a better alternative.

With long-term pessary use pelvic support may improve. A pessary placed for a large prolapse may require downsizing after some months due to a smaller genital hiatus.¹¹⁶ A prolapse reduced for years may not recur for months or years after pessary removal, although most recur soon.¹¹⁷ If a pessary is used prior to a vaginal obliterative procedure such as colpocleisis, reevaluation of the prolapse prior to the date of surgery is wise, in case the planned procedure is no longer feasible.

Office triage of possibly unstable patients

Office efficiency can plummet when a patient presents with a potentially serious medical condition. If obtaining a

TABLE 4
Triage of unanticipated, potentially serious presentations¹¹⁸

Problem	Recommend emergent care	Consider urgent care (within a few days ^a)	Routine follow-up (1-3 mo)	Noteworthy points
Elder abuse or neglect indicators	<ul style="list-style-type: none"> Physical evidence Stealing of medications Unexplained severe dehydration, malnutrition Patient or physician concern about safety 	Suspicious indicators (missed appointments, live-in family but lack of assistance, weight loss, malnourishment, unwilling to consider moving when indicated)		<ul style="list-style-type: none"> State reporting laws vary Consider Adult Protective Services, social work referral if nonemergent See Table 6 for other resources
Dyspnea	<ul style="list-style-type: none"> Tachycardic Hypotensive (SBP <80 or SBP <120 with symptoms^b) Hypertensive (see below) Possible CHF, pneumonia with hypoxia, AMI, PE, atrial fibrillation with RVR 	<ul style="list-style-type: none"> Pneumonia without hypoxia (within 24 h^c) URI with chronic lung disease 	<ul style="list-style-type: none"> Deconditioning Anxiety Stable chronic lung disease 	<ul style="list-style-type: none"> Vital signs, oxygenation guide disposition Inadequate home help or supervision and unknown baseline status favor emergent intervention
Irregular or rapid HR	<ul style="list-style-type: none"> New arrhythmia HR >130 (regular or atrial fibrillation with RVR) Hypotensive (SBP <80 or SBP <120 with symptoms^b) 	HR 110-130 (regular or chronic atrial fibrillation), normotensive, and asymptomatic (within 24 h ^c)	Frequent premature beats	<ul style="list-style-type: none"> BP, HR, and symptoms guide disposition
Elevated BP	BP >180/120 (either), or >150/100 with acute symptoms	SBP 150-180 or DBP 100-120 without acute symptoms (within 24 h ^c)	BP <150/100	Emergent: chest pain, acute dyspnea, severe headache, visual or mental status changes, hematuria, dizziness
Confusion	<ul style="list-style-type: none"> Acute change (days or hours) Lack of home support^d 	<ul style="list-style-type: none"> Gradual change (weeks or months) 	<ul style="list-style-type: none"> Chronic 	<ul style="list-style-type: none"> Consider new medication, infection (especially UTI), stroke, AMI, dehydration
Fell coming to appointment	<ul style="list-style-type: none"> Syncope or near syncope Seizure Possible CVA Orthostasis with marked symptoms Significant dehydration 	<ul style="list-style-type: none"> Orthostasis with mild symptoms Generalized weakness Leg weakness due to immobility 	<ul style="list-style-type: none"> Isolated event, identifiable cause (eg, tripped) 	<ul style="list-style-type: none"> History and examination guide disposition Consider home health fall risk assessment
Fatigue, malaise	<ul style="list-style-type: none"> Acute onset Abnormal vital signs Possible angina/AMI, infection, DKA, dehydration with ARF, CHF 	<ul style="list-style-type: none"> Hypothyroidism Hyperthyroidism 	<ul style="list-style-type: none"> Chronic illness (especially COPD, CHF, ischemic heart disease, CRF) Depression 	<ul style="list-style-type: none"> Extensive differential diagnosis Consider emergent care if concern for neglect Consider goals of care/advance directives before extensive workup or emergency referral

AMI, acute myocardial infarction; ARF, acute renal failure; BP, blood pressure in millimeters of mercury; CHF, congestive heart failure; COPD, chronic obstructive pulmonary disease; CRF, chronic renal failure; CVA, cerebrovascular accident; DBP, diastolic blood pressure; DKA, diabetic ketoacidosis; HR, heart rate in beats per minute; PE, pulmonary embolism; RVR, rapid ventricular rate; SBP, systolic blood pressure; URI, upper respiratory infection; UTI, urinary tract infection.

^a Some conditions, while not emergent, should be followed up within 24-48 h; ^b Symptoms of hypotension: lightheadedness, dizziness, syncope, pallor, confusion; ^c Recommend patient be seen within 24-48 h; ^d Home support: consider presence and quality of supervision and assistance.

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consultation is impractical, the gynecologist must judge the urgency of the problem. Table 4 lists nongynecologic presentations with suggested guidelines for

disposition to emergent care, urgent follow-up (see specialist or primary care within a few days), or routine follow-up (in 1-3 months).¹¹⁷ The suggestions are de-

rived from geriatric clinical practice, incorporating evidence, expert opinion, and pragmatism. They are not formal best practice standards.

TABLE 5
Preoperative checklist for geriatric issues

Issue	Assessment considerations	Recommendations
Function	Functional ability determines supportive care needed and predicts surgical outcomes	Reassess domains in Table 3; query all ADL, IADL; inventory assist devices (cane), home modifications (elevated toilet seat)
Exercise tolerance	Exercise to 4 METs indicates good cardiopulmonary and physical status ¹²⁴	Walk up 1 flight stairs or level at 4 mph
Cardiac status	High prevalence of subclinical disease and diastolic dysfunction ¹²⁴	ECG; if sedentary, consider nonexercise stress test; avoid dehydration, overhydration
Pulmonary status	Less airway protection, diminished cough, lower tidal volume, higher closing volume	Assess exercise tolerance; chest x-ray for later comparison if concerns; query dysphagia
Renal function	Less compensation for fluid, electrolyte excess or deficiency; hyponatremia is most common electrolyte disorder; high risk if taking diuretic	Calculate creatinine clearance; avoid standing postoperative orders; calculate fluid requirements; monitor electrolytes
Frailty	Physical weakness and weight loss (10 lb/6 mo); suspect frailty if: hematocrit <35%, albumin <3.4 g/dL, fall in past 6 mo, dependence in ADL	Consider "prehabilitation," strength/conditioning and nutritional supplementation preoperatively
Fall risk	Increased if past fragility fracture, recurrent falls, fall requiring medical care, gait/balance problems, worrisome medications	Communicate with hospital staff; assess as needed with simple office tests or by physical therapist
Delirium risk	Prevention is key ¹²⁵ ; risks: previous delirium, cognitive impairment, functional disability, medical illness, substance use (alcohol, benzodiazepines, narcotics), advanced age (>80 y), sensory impairment, immobilization, metabolic derangement, pain, sleep deprivation ¹²⁶	Inform, educate patient, family; prevention strategies: orientation, nutrition, fluids, sleep, sensory aids; resource: www.hospitalelderlifeprogram.org
Current medications	Prescribed, over-the-counter, herbal medications, nutritional supplements	Review for interactions with perioperative issues
Thrombosis risk	All older patients (>60 y) are at high risk ¹²⁴	DVT prophylaxis
Foreign body inventory	Artificial joints, implanted devices	Relevant to patient positioning, infection risk
Advance directives	Power of attorney, living will	Establish preoperatively
Laboratory	Abnormalities are more common in asymptomatic elderly than asymptomatic young, notably anemia, hyponatremia, thyroid disorder	Routine blood cell count, electrolytes, glucose, hepatic and renal function; thyroid screen within 1 y; electrolytes shortly before and soon after surgery
Social support	Postdischarge medication assistance, observation for complications, ADL assistance	Verify caregiver, contact information; ensure communication, oversight; home health useful
Providers	Communication with other providers enhances care, reduces errors	Names, contact information
Preoperative education	Patient-controlled analgesia, incentive spirometer, compression boots require learning	Preoperative introduction to technology, equipment, hospital environment may be useful

ADL, activity/activities of daily living; DVT, deep vein thrombosis; ECG, electrocardiogram; IADL, instrumental activity/activities of daily living; MET, metabolic equivalent, energy required to perform activity.

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Perioperative management

Advanced age is a risk factor for perioperative morbidity and mortality, but age has little impact if perioperative management is optimal. All organ systems have less ability to compensate for insults, and predicting the most vulnerable is difficult in this rapidly changing environment. Thus, preoperative

preparation and postoperative care need to be as meticulous as surgical technique. Excellent recent summaries of perioperative issues in older women are available in the gynecologic and surgical literature.¹¹⁹⁻¹²³

Preoperative evaluation should include domains in Table 2 as well as items in Table 5. Most of these assessments could

be included in a preoperative clearance consultation from a primary care physician or geriatrician. A useful consult could be facilitated by requesting those specific domains and items.

The triad of frailty, disability, and comorbidity predicts poor surgical outcomes in the elderly better than traditional risk

TABLE 6

Resources for seniors and professionals

AOA ● Federal programs, projects; resources for patients and providers	http://www.aoa.gov
Eldercare Locator ● Care resources by location or topic	http://www.eldercare.gov
Centers for Medicare and Medicaid Services ● Administrative and regulatory information	http://www.cms.gov
Medicare ● Patient-directed information about benefits, policies, rules	http://www.medicare.gov
Medicare Nursing Home Compare ● Access quality rating and statistics of individual nursing homes	http://www.medicare.gov/NHCompare
AOA Aging and Disability Resource Center ● Single local point of entry to long-term care, other services	http://www.aoa.gov/AoARoot/AoA_Programs/HCLTC/ADRC/index.aspx
National Association of Area Agencies on Aging ● Information on health care options, home services, local resources	http://www.n4a.org
National Adult Day Services Association ● Consumer information; links to member organizations	http://www.nadsa.org
Family Caregiver Alliance ● Information, research, advocacy	http://www.caregiver.org
National Caregiving Alliance ● Research, policy analysis, ratings	http://www.caregiving.org
Alzheimer's Association ● Information, resources, advocacy, research	http://www.alz.org
AARP ● Social, medical, financial information and resources; advocacy	http://www.aarp.org
National Academy of Elder Law Attorneys ● Local legal resources, news	http://www.naela.org
American Bar Association Commission on Law and Aging ● Resources for legal professionals	http://www.americanbar.org/groups/law_aging.html
National Center on Elder Abuse ● Helplines, hotlines, local resources; information on maltreatment	http://ncea.aoa.gov
National Committee for Prevention of Elder Abuse ● Information and resource clearinghouse	http://preventelderabuse.org
Hospital Elder Life Program ● Delirium prevention strategies for providers and patients	http://www.hospitalelderlifeprogram.org

AARP, American Association of Retired Persons; AOA, Administration on Aging.

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factors.¹²⁷ Gait speed is emerging as possibly the best single predictor of morbidity and mortality.¹²⁸⁻¹³⁰ Thus, while cardiac events comprise the greatest organ-specific cause of mortality, assessing physical function and living disabilities better informs clinical decisions and care. Albumin is not a specific or sensitive marker of malnutrition, but is nonetheless strongly inversely related to postoperative morbidity and mortality.^{131,132}

If there is a need (physician concern or hospital mandate) to establish baseline fall risk, several simple tests have been validated for fall risk as well as functional mobility.^{133,134} For the Timed Up and Go Test, the patient rises from an armless chair, walks quickly but safely around an object 10 feet away, and returns to the chair. Completion in <14 seconds indicates a low fall risk. A physical therapist can

provide a thorough evaluation if concerns arise.

Obtaining informed consent for procedures can be a muddy issue.¹³⁵ Decisional capacity is not simply dichotomous, and may be retained fully or partly in mild dementia. Expert determination of capacity is inconsistent. An individual's right to choose is constitutionally guaranteed until legally removed. Power of attorney documents vary regarding

scope of powers and when they become effective. Fortunately, legal involvement is rarely necessary to obtain informed consent. If decisional capacity is in question, the legal surrogate (proxy or agent) cosigns the consent form. Legal authority comes only from the highest-ranking surrogate's cosignature.¹³⁵ For example, Mrs D requests that her daughter, not her husband, make decisions on her behalf, and her daughter cosigns the consent. When postoperative complications incapacitate Mrs D, the daughter acts as her agent only if Mrs D completed the legal documents. Otherwise the husband directs her care. After the appointed agent then spouse, state laws vary regarding surrogate hierarchy.

Standardized postoperative care orders have invariably been created for younger adults. Medication doses are typically too high and liberal for older, frailer patients, and fluids may not be individually calculated. Sedatives and anticholinergics should be given gingerly, starting with perhaps one quarter the normal adult dose. Regular doses of opioid analgesics may be required, but titration should be cautious. Narcotics given rectally may cause fewer side effects than orally or intravenously. Dose and onset of action are similar to the oral route. Acetaminophen alone per rectum will occasionally suffice. Proactive constipation prevention is indicated with opioids and anticholinergics.

The postoperative intervention with the broadest benefit is early "perpendicularization" and mobilization. Debilitation occurs rapidly in the elderly, and recovery slowly. Upright posture (sitting) and ambulation support cardiovascular, pulmonary, and musculoskeletal systems in numerous ways. Minimize bed rest to prevent a low activity-weakness repetitive deteriorating cycle.^{136,137} Bed-bound patients benefit from physical therapy to maintain muscle strength.

Delirium is a serious postoperative complication that occurs in as many as half of postoperative patients age >65 years, increasing inpatient and postdischarge mortality.^{126,138} An estimated 30-40% is preventable. The Hospital Elder Life Program is a free online resource that outlines validated strate-

gies to reduce delirium incidence (<http://hospitalelderlifeprogram.org>). Delirium increases aspiration risk, so precautions may be indicated.

Transitions of care are dangerous for older persons.¹³⁹ Care facility to hospital, hospital to home, hospital to rehabilitation facility, specialist to primary care, and other transitions are fraught with poor communication, dropped information, lack of coordination, and misunderstandings. Discharge instructions are frequently misunderstood or forgotten *even when the health care team has done its due diligence*. In particular, patients are unsure what symptoms should prompt a call or urgent visit. Preventing readmission is a looming necessity, especially in the Medicare population.^{140,141} A timely follow-up appointment and/or home health visit helps circumvent medication and other errors. No simple solution exists, but awareness of the problem is an important first step.

Resources

The gynecologist may be a woman's first and sometimes only point of access to the many aging resources available. Advanced age, with or without medical conditions and functional impairments, increases vulnerability and diminishes self-determination capacity. The benefit of having a proactive physician cannot be overemphasized. Table 6 lists World Wide Web sites for governmental agencies and national organizations that inform patient, caregiver, and health care provider.

Concluding comments

Most individuals lucky enough to age will become vulnerable. Proactive guidance toward medical, social, and legal resources helps a frail woman with diminishing capacity maintain function and independence. In addition to knowing the patient's daily living function and social support, key geriatric practice modifications that improve outcomes are giving extra attention to communication, watching for cognitive decline, maximizing mobility and function, minimizing medication number and dose, adjusting perioperative care for aging physiology, and appreciating the

uncertainty of the time after hospital discharge. ■

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