

Ana Hategan, James A. Bourgeois, Karen Saperson,
and Simon Chiu

10.1 Background

When requested to see a patient during an emergent or crisis situation while on call, there is essential basic information that the consulting physician may need to obtain from nursing staff before seeing the patient (either over the phone or in person) in order to determine whether medical orders are required prior to the physician's arrival and prior to performing the bedside assessment and intervention for the respective chief complaint(s) (see Fig. 10.1).

As shown in Fig. 10.1, the on-call *bedside* geriatric psychiatric assessment comprises several elements, which should be an essential part of the care of geriatric patients and a prerequisite for appropriate intervention. Monitoring for drug-disease and drug-drug interactions is imperative as a first step in the evaluation process.

A. Hategan, MD (✉) • K. Saperson, MBChB
Department of Psychiatry and Behavioural Neurosciences, Division of Geriatric Psychiatry,
Faculty of Health Sciences, Michael G. DeGroote School of Medicine, McMaster University,
Hamilton, ON, Canada
e-mail: ahategan@stjosham.on.ca

J.A. Bourgeois, OD, MD
Department of Psychiatry/Langley Porter Psychiatric Institute, Consultation-Liaison Service,
University of California San Francisco Medical Center, San Francisco, CA, USA
Consultation-Liaison Service, University of California San Francisco Medical Center,
San Francisco, CA, USA

S. Chiu, MD, PhD
Department of Psychiatry, Lawson Health Research Institute, University of Western Ontario,
London, ON, Canada

On-call
psychiatric
assessment
and
management

Information obtained before seeing the patient

Does the patient have a diagnosis of prior/current psychiatric illness?; What is the patient's behavior?; Is the patient dangerous to himself/herself or to others?; What is the reason for his/her hospitalization?; What is his/her current medication list, and if any recently started or discontinued medications?; Has there been any recent change in his/her level of consciousness?; Has there been any previous similar episodes?; What are the patient's vital signs?; What is the patient's allergy status?; Has the patient been deemed incapable to make treatment decisions, and if incapacitated, who acts as the proxy decision maker?; What is the patient's code status?; What is the patient's legal hospitalization status?

Medical orders authorized before seeing the patient

Verbal order for appropriate level of monitoring for the situation (e.g., close observation).
Verbal order for chemical restraints or as-needed medication before the patient can be safely assessed, or in cases of dangerousness.
Verbal order for seclusion or physical restraints in acutely dangerous behavior to the patient and/or others.

Beside assessment and management

Selective chart review and history
Review of vital signs
Selective physical examination (as the patient cooperates or tolerates)
Selective mental status examination
Review of recent laboratory/neuroimaging examination
Review of working diagnosis
Review of differential diagnosis
Management of the chief psychiatric complaint

Fig. 10.1 General strategies for the on-call physician in the provision of geriatric psychiatric assessment and management

A complete list of the patient's prescription and nonprescription medications should be reviewed. If a new medication was recently prescribed or discontinued, drug-drug interactions must be reviewed.

Delirium, major neurocognitive disorders (NCDs) (formerly termed dementia), depressive disorders, and other psychiatric disorders are common in the older population. Maintaining high vigilance for symptoms of depression is essential since geriatric patients may not endorse depressed mood per se, but instead present with cognitive disturbance as well as nonspecific, vague complaints as fatigue, constipation, and anorexia, with subsequent weight loss, which may mimic physical illnesses. Although the on-call principles of psychiatric examination of the geriatric patient are described in Chap. 1, integrated elements of such assessment should include review of findings of psychiatric, cognitive, and functional assessment tools. Being familiar with common screening tools used specifically in the geriatric population for identifying various psychiatric syndromes is essential for on-call practice. Performance-based screens, usually completed by clinicians other than the on-call physician, can be readily available to the on-call physician to incorporate into their medical practice.

It is important to know that cognitive tests can have multiple utilities. The Montreal Cognitive Assessment (MoCA), Mini-Mental State Examination (MMSE), Mini-Cog Test, and the Addenbrooke's Cognitive Examination-Revised (ACE-R) are validated brief screening tests for major or mild NCDs [1]. Other brief performance-based screening instruments shown to be useful in identifying medical

patients with cognitive dysfunction are the Short Blessed Test, Brief Alzheimer's Screen, Ottawa 3DY, and Frontal Assessment Battery (FAB) [2, 3]. Poor performance on the FAB in conjunction with the presence of behavioral abnormalities could be an important factor in the diagnosis of frontotemporal NCD. These tests all require a cooperative patient. These instruments do not assess the impact of cognitive dysfunction on social or occupational activities of daily living, which are also performance-based measures (e.g., Kohlman Evaluation of Living Skills (KELS) – an in vivo standardized test designed to determine a patient's ability to function in basic living skills [4]) and which have been promoted as important criteria to distinguish demented and non-demented populations [2]. It is important to know that scoring perfectly on any cognitive screening test does not preclude the diagnosis of delirium, or major or mild NCDs. The fluctuating course of delirium can allow for "lucid intervals" in which some delirious patients may have the ability to perform well, whereas highly educated patients with major NCDs may score perfectly but have deficiencies in insight, judgment, and other areas of cognitive function. Additionally, patients may score suboptimally on a screening test because of language or education level barrier, but have good performance when tested in greater depth [5].

Determining the areas of functional impairment helps with the diagnosis. There is a great deal of interdependency among patients' social, financial, and functional status. Low socioeconomic status may play a role in undernutrition and the ability to purchase medications. A critical issue to assess patients being evaluated on call is the concern about driving ability due to a medical condition. Patients given prescription drugs known to have pharmacologic effects and/or side effects that can impair the ability to drive should be advised not to drive until their individual response is known or the side effects no longer result in impairment. Physicians have a mandatory or discretionary duty to report patients whom they believe to be unfit to drive to the relevant licensing agency, depending on the jurisdiction involved. There is no test which has sufficient sensitivity or specificity to be used as a single determinant of driving ability. However, abnormalities on the MoCA, MMSE, clock drawing, and Trails B tests should trigger further in-depth testing of driving ability [6]. Moderate to severe major NCDs, or an inability to independently perform multiple instrumental activities of daily living (IADLs) or any of the basic activities of daily living (ADLs) due to cognitive impairment, are contraindications to driving [6].

Medical decisional capacity determination is an essential part of geriatric psychiatric care (see Chap. 6). Studies have shown that MMSE scores less than 20 out of 30 points appear to increase the likelihood of decisional incapacity [7]. Therefore, the MMSE or MoCA could be used to quantitate cognitive function as part of an assessment of a patient with questionable medical decision-making capacity, which should then trigger a formal capacity assessment (specific to the clinical issue at hand) when a patient's score is low. Aligning patients' medical decisions with their belief system is essential throughout care plan decision steps.

A summary of the screening tools used in the psychiatric examination of geriatric patients is presented in Table 10.1 [1, 2, 4, 8–18].

Table 10.1 Geriatric screening tools used in the psychiatric examination [1, 2, 4, 8–18]

Psychiatric assessment tools	Geriatric depression: (a) PHQ-9 [8] (self-administered tool) or PHQ-2 [9] (performed by an interviewer); (b) GDS, available in 5-item [10], 15-item [11], and 30-item versions; (c) BASDEC [12]
	Harmful or hazardous drinking: (a) CAGE [13], (b) MAST-G [14], (c) ARPS [15]
	Behavioral disturbance of major neurocognitive disorders: (a) Cohen Mansfield Agitation Inventory [16]; (b) Neuropsychiatric Inventory [17]
Cognitive assessment tools	Cognitive impairment: (a) MoCA; (b) MMSE; (c) Mini-Cog test (it combines three-term registration and recall with clock drawing); (d) clock drawing test (which is less influenced by educational level and culture, as is MMSE or MoCA) [1]; (e) other cognitive screening tools: ACE-R, Short Blessed Test, Brief Alzheimer's Screen, and the Ottawa 3DY [1, 2]; (f) CAM, which distinguishes delirium from major neurocognitive disorders [18]
Functional assessment tools	Kohlman Evaluation of Living Skills (KELS) [4]. Functional performance is assessed at two levels: (a) IADLs (e.g., driving or ability to use public transportation, shopping, meal preparation, telephone skills, housework, laundry, medication administration, handling finances) and (b) ADLs (e.g., bathing, dressing, transferring, feeding, toileting, continence)

Note: *ACE-R* Addenbrooke's Cognitive Examination-Revised, *ADLs* Activities of Daily Living, *ARPS* Alcohol-Related Problems Survey, *BASDEC* Brief Assessment Schedule Depression Cards, *CAGE* Cut-Annoyed-Guilty-Eye, *CAM* Confusion Assessment Method, *GDS* Geriatric Depression Scale, *IADLs* Instrumental Activities of Daily Living, *KELS* Kohlman Evaluation of Living Skills, *MAST-G* Michigan Alcoholism Screening Test – Geriatric Version, *MMSE* Mini-Mental State Examination, *MoCA* Montreal Cognitive Assessment, *PHQ-2* Patient Health Questionnaire-2, *PHQ-9* Patient Health Questionnaire-9

10.2 The On-Call Chief Psychiatric Complaints

The chief psychiatric complaints occurring in geriatric patients in crisis presenting during on-call, after-hours shifts and in any urgent institutional setting are discussed below. We incorporate case vignettes representative of plausible scenarios in geriatric patients to address on-call assessment and management strategies.

10.2.1 The Confused Patient

Case Vignette The nursing home staff asked you to urgently see Mr. A, a 79-year-old male with Parkinson's disease, who became suddenly confused, agitated, and attempted to leave the facility. He has had fluctuating vivid and frightening visual hallucinations of rodents running into his room after an anti-Parkinson medication, pramipexole, was newly started. He was also taking carbidopa/levodopa for 10 years, in the absence of previous depression or cognitive impairment. Upon your assessment, you determined that Mr. A was suffering from an acute onset of cognitive impairment, perceptual disturbances, and psychomotor agitation following initiation of a dopamine agonist, in keeping with a diagnosis of medication-induced

delirium. You discontinued pramipexole. Although there was a partial benefit with the discontinuation, his symptoms remained distressing, and a trial of low-dose quetiapine 12.5 mg at bedtime was started. His confusion fully resolved in 1 week.

Confusion is a cognitive dysfunction, for which the on-call physician is frequently requested to see a patient in various institutional settings. However, confusion is also highly under-recognized in the emergency department (ED), and emergency-based case finding is an opportunity to identify and intervene early for this potentially reversible condition.

“Confusion” is a common synonym for delirium. However, confusion is also a symptom of major or mild NCDs, major depression, or psychotic disorders. Because delirium is often a psychiatric and medical emergency, it must be clinically differentiated from other psychiatric syndromes. This can be challenging, especially when such psychiatric syndromes occur concurrently (e.g., delirium superimposed on major or mild NCD). Until another cause is identified, the confused geriatric patient should be assumed to have *delirium*, which is often reversible with treatment of the underlying systemic medical disorder.

As illustrated in Fig. 10.2, some common risk factors for delirium include metabolic disorders, infections, and medications [19, 20]. Potentially reversible causes of major or mild NCDs include thyroid dysfunction, vitamin deficiencies, human immunodeficiency virus infection, normal-pressure hydrocephalus, and depression, whereas major irreversible causes include Alzheimer’s disease, other neurodegenerative conditions (e.g., frontotemporal and Lewy body NCDs, Parkinson’s disease, Huntington’s disease), and vascular NCD. It is essential to identify and treat potentially reversible causes of delirium episodes occurring “within” an irreversible NCD such as Alzheimer’s disease, because this may lead to periods of some short-term improvement.

Most causes of confusion in the geriatric patients can usually be identified based on the complete history, medication review, physical including mental status examination, laboratory examination, and with longitudinal reevaluation. Identifying delirium requires a high index of suspicion. Delirium typically has an acute onset in disturbances of attention and consciousness and a fluctuating course, and in most cases, these hallmarks of delirium allow for recognition [21]. Because delirium is associated with high morbidity and mortality, under-recognition can be problematic especially with age 80 years or older, preexisting NCD, visual impairment, and/or hypoactive subtype of delirium [22]. The rates can be as high as 50 % in geriatric hospitalized medical patients [19, 22]. Below, we will focus on the evaluation and management of delirium due to its acuity during on-call and crisis situations.

10.2.1.1 Assessment of Delirium

(a) *Use Brief Bedside Tools to Screen for Delirium* The Confusion Assessment Method (CAM) is a validated tool for frontline clinicians that can be used to identify the presence of delirium even if a preexisting NCD is established. The CAM includes four features: (1) acute onset and fluctuating course, (2) inattention, (3) disorganized thinking, and (4) altered level of consciousness. The presence of

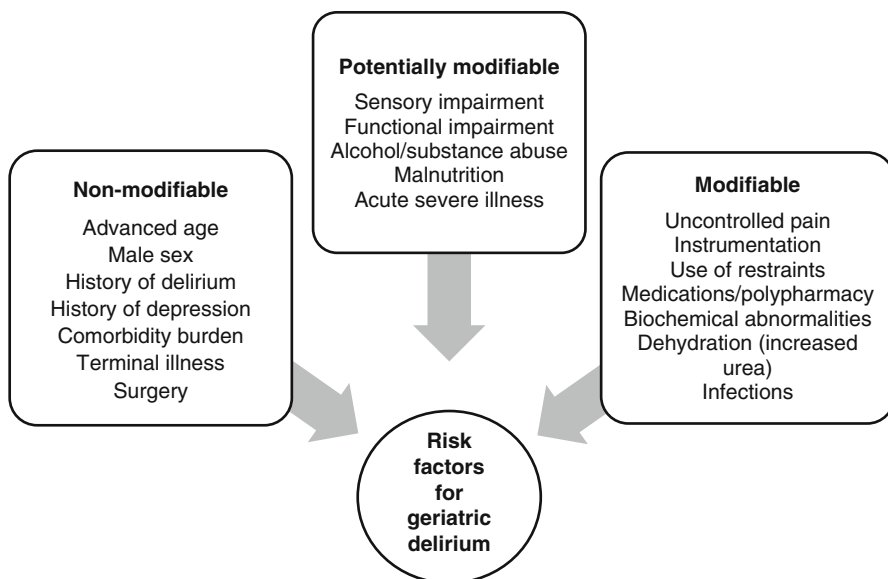


Fig. 10.2 Common risk factors for geriatric delirium [19, 20]

delirium is indicated by a CAM algorithm that includes features 1 and 2, plus either 3 or 4 [18]. The MoCA or MMSE are not by themselves definitive in screening for delirium or differentiating it from major or mild NCDs. For test of inattention, assess the patient by reciting, backwards, days of the week or months of the year, or by serial subtractions of the same number from a starting point, and by observing for problems focusing, staring off into space, or losing track of questions (see also Table 18.1 for identification of delirium).

(b) Obtain Collateral Information from Staff or Caregivers Obtain information (e.g., nursing notes, comments of family members) over the previous 24 h, especially if there was any acute change from baseline cognition, behavior, and function.

(c) Differentiate Delirium from Other Conditions with Similar Symptoms Assessment of delirium includes examining levels of arousal, cognition (i.e., orientation, attention, memory), psychomotor activity, and perceptual disturbances. Remember that falling asleep during the daytime, staring off into space, decreased motor activity, and lethargy, usually seen in hypoactive delirium, are abnormal in geriatric patients with major NCDs. Major or mild NCD is the most likely predisposing factor for geriatric delirium, and recurrent delirium should raise the suspicion for preexisting NCD.

Unlike the rapid onset of delirium, the onset of major NCD is usually insidious and not associated with fluctuations in mental status (except for NCD with Lewy

bodies, which has fluctuations in cognition as one of the core features). A change from baseline is often key to confirming the diagnosis of delirium in those with major or mild NCD. Acute- and new-onset visual hallucinations, behavioral disturbances such as “picking at the air” or disrobing, and poor attention or distractibility during assessment can be helpful features in distinguishing delirium from major NCDs. Patients with major NCDs can present with comorbid depression (e.g., mood change, anhedonia, insomnia, anorexia, psychomotor change), who then can develop delirium as a result of “failure to thrive.”

Therefore, these three syndromes (delirium, major NCD, and depression) can present with an overlap in some features (e.g., anorexia, insomnia, and psychomotor change). Notably, a patient with major depressive disorder will present such features for at least 2 weeks and will not be associated with dramatic changes in attention (although depressed patients may have *some* attentional disturbances especially on formalized testing) or level of consciousness, unlike delirium, which features fluctuating mental status disturbances. Figure 10.3 illustrates some differences among delirium, major NCD due to Alzheimer’s disease, and depression [21].

(d) Assess for Current Psychiatric Symptoms Ask the patient about the presence of vivid dreams, nightmares, or poor sleep quality during the previous night, although some patients may have little recollection of the night before. Assess for sleep-wake disturbance, anxiety, mood disturbances, and agitation (hyperactive subtype) or apathy (hypoactive subtype); note that hypoactive delirium can resemble depression.

Delirium	Alzheimer’s disease	Depression
<ul style="list-style-type: none"> • Acute onset • Psychomotor changes, mood changes, sleep (circadian) disturbances • Fluctuating cognitive loss • Patient may minimize cognitive deficit • Performance characterized by short attention span • Aphasia and apraxia • Usually reversible, but can also be prolonged or chronic 	<ul style="list-style-type: none"> • Insidious onset • Apathy, agitation, sundowning, weight loss • Stable short-term (i.e., no daily fluctuations) cognitive loss (but progressive over time) • Patient may minimize cognitive deficit despite impaired memory and executive function • Guesses and wrong answers during testing • Aphasia and apraxia • Irreversible 	<ul style="list-style-type: none"> • Subacute onset • Psychomotor changes, anhedonia, anxiety, sleep disturbance, weight loss • Stable cognitive loss • Patient may express subjective complaints of cognitive impairment that exceed objective deficit • “I don’t know, I can’t” responses • Language and motor skills clinically intact • Reversible

Fig. 10.3 Clinical differences among delirium, Alzheimer’s disease, and depression [21]

(e) *Assess for Subtle Manifestations of Delirium* New-onset incontinence, mild disorientation, hypersensitivity to environmental stimuli, hypervigilance, dysphagia, dysarthria, refusal to mobilize, or falls can represent subtle manifestations of delirium, which then can progress to include more dramatic agitation, anxiety, and/or psychotic symptoms [22].

(f) *Assess the Capacity to Consent to Specific Tasks, Including Medical Investigations and Treatments* The fluctuating course of delirium can allow for “lucid intervals” in which the patient’s decisional capacity may appear to be generally preserved. This circumstance is challenging in that patients may not later remember the informed consent discussion accomplished during a brief “lucid interval” occurring during more symptomatic periods. Because of this, they may not be able to give informed consent until the entire delirium episode is clearly over. The assessment of *financial decision making* should be deferred unless there is an urgent necessity to accomplish this.

10.2.1.2 Management of Delirium

(a) *Correct the Underlying Causes* Common causes for delirium can be prescription or over-the-counter medications, such as analgesics (e.g., opioids such as meperidine, nonsteroidal anti-inflammatory drugs), anticholinergics (e.g., benzotropine, oxybutynin, diphenhydramine), or dopamine agonists (e.g., levodopa, pramipexole, ropinirole); these should be switched to less delirium-provoking agents if possible, discontinued, or have the doses decreased under observation. Other delirium-provoking drugs (e.g., corticosteroids, beta-blockers, antimicrobials, anti-neoplastics, antiseizure medications, benzodiazepines in susceptible patients) should be tapered, switched, or discontinued. Checking for pain and constipation should be routine in the on-call management of delirious patients, whereas performing a post-void residual bladder scan can identify urinary retention quickly.

Clinical Recommendation

As in Mr. A’s case, when there are medical conditions that necessitate review of newly started, possibly delirium-provoking medications, consider dosage tapering or discontinuation of nonessential medications.

(b) *Treat the Psychiatric Symptoms* When asked to assess a patient for distressing agitation, aggression, psychotic symptoms, or sleep disturbance due to delirium in which non-pharmacological approaches (e.g., environmental modification, restraint-free care with sitter for constant supervision) solely did not suffice, psychopharmacological treatment may be required. (See Table 18.1 for non-pharmacological management of delirium.) Antipsychotic medications are the treatment of choice for short-term duration until delirium resolves. Close monitoring is required because antipsychotics can be associated with adverse neurological effects, such as

extrapyramidal symptoms (EPS) or neuroleptic malignant syndrome (NMS) – which *itself* causes delirium, particularly in Parkinson-sensitive populations. In cases of confirmed NMS, all antipsychotics need to be held until the creatine phosphokinase (CPK) has been normalized for 2 weeks, and then a less D₂ blocking antipsychotic agent can be cautiously given if an antipsychotic is still required, with continued surveillance for recurrence of NMS (e.g., serial CPK monitoring). Antipsychotics can produce a particular type of EPS called akathisia (motor restlessness) that can aggravate the hyperactive, delirious patient.

Haloperidol, a typical antipsychotic, is recommended in delirium clinical practice guidelines mostly based on clinical experience and a large evidence base; haloperidol lacks hypotensive, anticholinergic, and sedating effects at low doses, but may lead to EPS at doses above 3 mg a day in the geriatric patients [19]. Initial oral dosing range of haloperidol is 0.25–1 mg, once or twice daily, with additional doses every 4 h as needed (peak effect, 4–6 h) [19, 23]. The dose can be titrated as needed, and severely agitated patients may require higher dosage. Haloperidol is not recommended if there is a preexisting Parkinson's disease or Lewy body NCD [23, 24]. Baseline electrocardiogram (ECG) is recommended to rule out corrected QT (QTc) prolongation syndrome, ventricular arrhythmias, and torsades de pointes, particularly for the intravenous administration of haloperidol. Although rare in geriatric patients, these cardiac adverse events are typically associated with additional risk factors (e.g., female sex, genetic predisposition, bradycardia, hypokalemia, hypomagnesemia) and after 24-h cumulative haloperidol dosages of 2 mg or more [23–25]. For prolongation of QTc intervals to greater than 450 ms or greater than 25 % over baseline ECG, consider cardiology consultation and antipsychotic dosage decrease or discontinuation [23].

Various other antipsychotics (which have different receptor activities and side effect profiles, and thus should *not* be thought of as completely interchangeable) can be used for delirium treatment. Initial oral dosing ranges of commonly used atypical antipsychotics in delirium include risperidone, 0.25–0.5 mg once or twice daily; olanzapine, 1.25–5 mg once daily; and quetiapine, 12.5–25 mg once or twice daily, whereas very limited data exist for the use of other atypical antipsychotic agents [19, 22, 23]. While quetiapine has less EPS potential and more sedative and hypnotic qualities than most other antipsychotics, it also has significant alpha-1 blockade and risk for orthostatic hypotension. Ziprasidone can prolong the QTc interval. Aripiprazole is rarely associated with QTc prolongation, making it a desirable option particularly in geriatric patients who may have multiple risk factors for QTc prolongation. Alternative routes of administration, such as subcutaneous, intramuscular, or intravenous, can be offered in patients refusing or unable to use orally administered agents; intravenous administration of haloperidol, approved for use in Canada but not in the USA by the Food and Drug Administration (FDA), is usually the first choice in critical care settings [24, 25].

Benzodiazepines such as lorazepam, 0.5–1 mg, with additional doses every 4 h as needed, are first-line treatment for delirium that is associated with seizures, withdrawal from alcohol or benzodiazepines/hypnotics, and for delirium due to NMS [19].

Caution should be exercised when using benzodiazepines in the delirious patient due to risk of paradoxical excitation, respiratory depression, falls, sedation, and worsening cognitive impairment [19] (also see Sect. 10.2.7 on the addicted patient).

Clinical Recommendation

The goal for the pharmacological treatment of delirium should be an *alert* patient who is manageable, rather than a sedated patient, and the medication should be tapered and discontinued as soon as possible after recovery from delirium.

Tapering to discontinuation of the antipsychotic treatment should be considered when the patient has been symptom-free for 1 week [26]. Some patients may be predisposed to recurrent or prolonged/chronic delirium (e.g., end-stage liver disease, cancer), and longer-term (even indefinite) antipsychotic treatment may be required in these circumstances. For delirium at the end of life, the goal is to minimize suffering and discomfort in patients in palliative care.

Physical restraints should be applied only in exceptional circumstances when there is serious risk of bodily harm to self or others; other interventions including medications were ineffective in ensuring safety; and when the benefits outweigh the risks of restraints. Direct, constant monitoring, reevaluation, and documentation are necessary to justify the continued use of physical restraints. (Also see Chap. 7.)

(c) Implement a Safe Discharge Premature or inadequately planned discharges may lead to rehospitalization or increased safety risks at home. Some patients wishing to leave hospital against medical advice without having their emergency care needs addressed may require involuntary detention under the psychiatric commitment statute specific to the local jurisdiction.

Clinical Recommendation

When the on-call physician is asked to see a delirious patient who requests to leave the hospital, the decision to discharge should be guided by clinical judgment rather than the patient's desire to go home, particularly if there are not adequate supports at home.

Those deemed mentally incapacitated to consent to treatment may need to be formally reassessed after being treated. Delirium in older, compared to younger, patients is associated with more severe cognitive impairment, morbidity, and mortality. Therefore, it is important to list "delirium" on the patient's medical profile (including on the hospital discharge summary and problem list) and ensure that the patient's primary care physician (PCP) is alerted to the history of an episode of delirium in order to assume an active role in post-delirium care, including post-recovery cognitive evaluation, delirium recurrence surveillance, medication adjustments, and risk factor management [20].

10.2.2 The Violent Patient

Case Vignette Mr. B, a 77-year-old male with a history of major NCD due to Alzheimer’s disease (MoCA was 14 out of 30 points 2 months earlier), was admitted to a psychiatric ward for increasing agitation and exit-seeking behavior at the skilled nursing facility where he had been living for 6 weeks. His PCP started him on a memory enhancer, donepezil, 6 weeks previously, but the staff noted increasing agitation thereafter. You were the on-call physician and asked to assess Mr. B because he was aggressive toward another patient during the night. In speaking with the staff and reviewing the chart, you identified a behavioral pattern that Mr. B had been wandering on the ward particularly in the early evening, appearing to be perplexed while trying to find his room. The identified trigger for his current event was that Mr. B sat on another male patient’s bed and became combative during altercation with that patient.

Aggressive behavior may be a symptom of several psychiatric disorders, such as neurocognitive (e.g., delirium, major NCDs), psychotic, bipolar, substance use, anxiety, and/or personality disorders, but it can also be a warning sign of an underlying critical systemic medical illness (e.g., stroke, hypoglycemia, pulmonary embolism, myocardial infarct). It can also be a manifestation of medication-induced adverse events (e.g., dopamine agonists, psychostimulants). Agitation can increase the potential for physical aggression and injury due to lack of behavioral control and lead to severe medical complications (e.g., exhaustion, rhabdomyolysis, renal failure, death) in the geriatric patient. “Sundowning” due to major NCDs refers to a specific pattern of agitation, with worsening of agitation in the late afternoon or early evening. Possible contributing factors for sundowning include decreased light exposure, timing of medications, and dysfunctional sleep-wake cycles.

10.2.2.1 Assessment

An episode of aggressive behavior must be defused before assessment and management can take place. A decision should be made about whether to first review the medical chart or evaluate the patient, depending on the severity of the agitation. Aggression due to delirium will be associated with other typical features of delirium (e.g., altered level of consciousness, circadian disturbance, fluctuating mental status, abnormal electroencephalogram). Aggression due to a major NCD will manifest typically in the moderate to severe stages of the disease and can include swearing, screaming, shouting, making threats, pinching, scratching, hitting, hair-pulling, biting, and behaving in a sexually inappropriate manner (see Chap. 17 for further details on neuropsychiatric symptoms of major NCDs).

(a) Aim for Safety First in all Instances of Aggression Adopt a nonconfrontational approach. The reader is referred to Fig. 10.4 for emergency safety measures that clinicians need to promptly implement when assessing an aggressive patient during an on-call event.

Aim
for
safety

Give the patient space and control the environment. Clinicians involved should stop doing whatever appears to be associated with the behavior (e.g., attending to personal care, changing a dressing), remove any obvious stressors (e.g., noise, equipment, pain), and move out of range. Remove items that a patient can grab (e.g., exposed jewelry, scarf, loose hair, ties, stethoscope, pen). Wear your hospital identification breakaway chain. View the patient initially from a distance, then approach the patient cautiously to perform the evaluation, if cooperative. If there is significant psychomotor activity, assume that the situation may be dangerous and be prepared before approaching the patient. Approach the patient slowly, use direct language, and remain calm in voice and demeanor. Ask the patient to describe the situation.

Know how to access the security arrangements at that facility. Ensure there is sufficient trained staff members available to help control the patient physically. Announce your intention in advance of any action. Remain at least 3 feet away from the patient, stand sideways so that you can remove yourself from a potentially combative patient, and do not turn your back on the patient until you are at least 15 feet away. In the emergency room, patients are usually searched for weapon possession before evaluation, but do not assume this has been done. Call hospital security to perform a search when necessary. Depending on the situation, if you suspect the patient has a weapon, call police right away for any disarming of patient. Never ask the patient to hand you a weapon, and never attempt to take a weapon from the patient. Assess the patient in a quiet, open area, while positioning yourself nearest to the exits.

Implement a calm and empathic approach, while meeting the patient's immediate need as appropriately as possible. Attempt to settle a tense situation by using the patient's preferred name and by not arguing or disagreeing. Attempt to empathize ("I can see you are upset. Can I help you?"). Listen carefully to their reply and investigate any claims or accusations. Attempt to divert the attention, particularly if there could be an element of major neurocognitive disorder involved. Offering the patient something to eat (a sandwich) helps to restore behavior in many cases, but do not give the patient food items that may be thrown at you (hot food/beverage, cutlery).

Fig. 10.4 Emergency safety measures for assessing and reducing patient violence

(b) *Evaluate the Event and Search for a Precipitant* After implementing the emergency safety measures, assess the patient's mental status, including sensorium (e.g., alert, drowsy), orientation level (e.g., temporal and spatial disorientation), behavior (e.g., calm, agitated), speech (e.g., pressured, slurred, loud, threatening), and thought processes (e.g., coherent, illogical). Read the medical chart, and follow-up with the staff and the patient to determine further assessment and management. Any interventions should develop based on the existing treatment plan.

Documentation by staff by way of a standardized *Behavior Chart* can be helpful in mapping and understanding events to prevent recurrence. This should include the "ABC approach" [27]:

- A. The *Antecedent* – what happened before the event?
- B. The *Behavior* – what behavior occurred?
- C. The *Consequences* – what response was there from others?

The A or antecedent is most important and is a description of the events immediately preceding the aggressive event, such as "Mr. B was disoriented on the ward and could not find his room." It is important to search for the trigger, or "activating factor," e.g., "Mr. B sat down on Mr. X's bed." Overall, facilitate assessment for major NCDs and delirium and/or bipolar or other psychiatric disorders known to precipitate aggression. In cases of aggression due to suspected overdose, follow management protocols for the specific substance.

(c) Do Not Hesitate to Call Other Medical Consultants if Acute Physical Problems Are Suspected Review vital signs taken over the past 24–48 h and rule out medication or substance withdrawal. Tapering or discontinuing medication believed to cause symptoms may not immediately relieve the agitation; thus, a psychotropic agent may be required initially. Lithium therapy requires particular caution in geriatric patients. Even if the serum level is 0.6 or 0.8 mmol/L (or mEq/L), which is in the “normal” range in a younger patient, it may actually be neurotoxic in a geriatric patient, likely due to age-associated changes in the blood–brain barrier which alter lithium uptake into the brain. Another common problem is insidious decrease in renal function in older lithium patients, requiring a renal panel with every serum lithium level. Toxic lithium levels may require intravenous fluids or even urgent renal dialysis. Abrupt discontinuation of certain medications may have deleterious effects (e.g., carbidopa/levodopa in Parkinson’s disease can induce NMS), while initiating other medications (e.g., cholinesterase inhibitors, as in Mr. B’s case) can trigger or exacerbate aggression.

(d) Duty to Inform (Protect or Warn) If the patient made significant and specific threats against a particular person or group of persons, and when there is an element of imminence, in many jurisdictions, the clinician who elicits the dangerousness data has the duty to inform the police and/or the intended, “identifiable” victim to protect that person [28]. Document concerns and the actions taken clearly and concisely in the chart. Give verbal sign-out of this information to the next on-call physician or the attending physician.

Clinical Recommendation

In the event of informing, the information disclosed should be limited to that which would provide protection. Consult with hospital risk management and legal team, and/or the ethics committee as necessary, especially for clarity of clinician duties under the laws of the local jurisdiction.

(e) Always Remember to Support the Staff Members and Others Involved Arrange a time to allow them to reflect on their role in the incident in a safe and supportive manner, and enunciate their concerns.

10.2.2.2 Management

(a) With the “ABC” in Mind, Plan the Ongoing Management Aim for a consistent approach with consideration of the possibility of patient’s misunderstanding of their surroundings (particularly in cognitively impaired patients), divergent communication skills and language barriers, and biases both in the patient and the staff.

(b) If the Problem Persists, Encourage the Patient to Take Medication to Help Regain Self-Control If necessary, consider chemical restraint in the least restrictive manner possible. The last resort of mechanical restraint requires one-to-one supervision, and

the facility's policy must be followed rigorously – especially the need for a written medical order, physician rounding, frequent reassurance, and a clear plan of observation and release timeframe (see Chap. 7). The short-term use of typical antipsychotic medications, such as haloperidol (0.5–2 mg), STAT (immediately), and PRN (pro re nata, or as-needed), and atypical antipsychotic medications, such as risperidone (0.5–1 mg), olanzapine (2.5–5 mg), or aripiprazole (2–10 mg), with small doses repeated often, is suggested for severe aggression or agitation. Careful monitoring for signs of medication effectiveness or the development of Parkinsonian features (e.g., restlessness, tremor, rigidity, stooped posture) is essential. (Also see Chap. 3.)

Clinical Recommendation

The initial dose of antipsychotics used to treat severe aggression or agitation is substantially reduced for geriatric patients. As a rule, “start low, go slow, and stay low.” In some cases, a dose more typical of a younger adult patient may be needed, but this should be approached only incrementally.

In patients with major NCDs with severe agitation without psychotic features, antidepressants such as trazodone or selective serotonin reuptake inhibitors (SSRIs) (e.g., citalopram, sertraline), anticonvulsants (e.g., valproate, carbamazepine), and short or intermediate acting benzodiazepines (e.g., lorazepam) can be used [27]. If carbamazepine is started, monitor for adverse events such as sedation, hyponatremia, cardiac toxicity, and drug-drug interactions because carbamazepine is a strong enzymatic inducer. If valproate is used, monitor for liver-associated enzymes, ammonia, and platelet count. Carbamazepine and valproate therapeutic drug monitoring levels should be routinely accomplished. If a benzodiazepine is started, use should be limited to brief periods in most cases [27].

(c) *Document the Events Clearly and Frequently* This is done particularly in the ongoing management.

10.2.3 The Psychotic Patient

Case Vignette Ms. C, a 75-year-old female, retired from her secretarial job 10 years previously, never married, socially isolated, and living in an apartment with her five cats, was reluctantly brought to the emergency room by her niece because of bizarre behavior. You were the on-call psychiatrist. Collateral information from the niece revealed that Ms. C had always been “odd and eccentric,” mistrustful of others, and had never gotten along with her neighbors. There was no family history of psychiatric disorders. She had bilateral hearing loss but refused to wear hearing aids. She actively smoked and did not use alcohol. She did not take any prescribed medications or over-the-counter remedies, except acetaminophen occasionally for headaches. While you interviewed Ms. C, she endorsed beliefs that a young couple

upstairs were spying on her, released laser beams and gas (which she could see and smell) through a vent in the ceiling to “knock her out,” and took her to the building’s basement to “perform tests.” She claimed that they inserted “a chip” in her arm to monitor her location. She showed you a bruise on her arm as proof of the tests. She stated she could hear them through the walls, saying “let’s get rid of her.” These symptoms began at least 6 months previously. She did not have any memory problems and was fully independent for IADLs and ADLs. Ms. C was cooperative with MoCA (score of 30 out of 30 points) and clock drawing test (normal). Computed tomography of head showed age-related atrophy and no vascular changes. Routine blood work was normal. She was fully oriented and alert. Your diagnosis was very-late-onset schizophrenia-like psychotic disorder.

Delusions, hallucinations, impaired reality testing, and sometimes decreased impulse control can be manifestations of a psychotic disorder. However, psychotic symptoms can be associated with various diagnostic categories including delirium, major NCDs, schizophrenia, delusional disorder, depressive and bipolar disorders, drug-induced disorders, and a range of medical-neurologic conditions (e.g., seizure disorders, brain tumors, Parkinson’s disease). More than 50 % of patients with major NCD of the Alzheimer’s type manifest psychotic symptoms during the course of this progressive illness [29]. In addition, several commonly prescribed medications can also produce psychotic symptoms in geriatric patients (e.g., dopamine agonists, anticholinergics, corticosteroids). The frequent coexistence of psychotic symptoms occurring in patients with major NCDs who may have other comorbid medical conditions and can be taking multiple medications complicates an already complex treatment situation in a geriatric patient.

Therefore, geriatric patients are at increased risk for developing psychotic symptoms due to multiple factors: age-related cortical changes in areas such as temporal or frontal lobes, age-related pharmacokinetic and pharmacodynamic changes, polypharmacy, cognitive changes, comorbid physical illnesses, social isolation, and sensory deficits (e.g., hearing loss) [30].

10.2.3.1 Assessment

(a) Determine the Underlying Etiology of the Psychotic Symptoms Review the patient’s chart to include medical history, medications and over-the-counter remedies, and most recent investigations (e.g., complete blood count, electrolytes, renal panel, liver-associated enzymes, ammonia, glucose, calcium, magnesium, albumin, lipid profile, thyroid-stimulating hormone, vitamin B₁₂, folate, urinalysis, and neuroimaging findings). Perform or review recent cognitive screening tests (e.g., MoCA) to rule out cognitive impairment. Obtain collateral information regarding the patient’s risk factors for late-onset psychotic disorder, including premorbid personality traits. In Ms. C’s case, the risk factors were female sex, hearing impairment, social isolation, abnormal premorbid personality, and abnormal social functioning. Review the psychiatric history as this may reveal past episodes of psychotic or depressive disorder that may predispose geriatric patients to psychotic symptoms.

Clinical Recommendation

There may be more than one causal factor contributing to the emergence of psychotic symptoms. For instance, psychiatric disorders like schizophrenia or major depression may coexist with major NCDs and/or acute causes of psychotic symptoms (e.g., medication-induced delirium). Treating or mitigating predisposing factors (e.g., optimizing sensory function) may be considered prior to pharmacological intervention.

(b) *Consider Differential Diagnosis* Psychotic symptoms can manifest across a spectrum of disorders that must be considered in the differential diagnosis prior to initiating appropriate pharmacological intervention.

Medical conditions such as thyroid disease, diabetes mellitus, vitamin B₁₂ and folate deficiency, electrolyte imbalance, dehydration, sleep deprivation, as well as chronic illnesses such as Parkinson's disease, Huntington's disease, multiple sclerosis, and amyotrophic lateral sclerosis have all been associated with psychotic symptoms [29]. Delirium, subtle seizure disorders, or structural brain lesions must be ruled out as well. Nearly 40 % of Parkinson's disease patients develop psychotic symptoms, and the incidence increases with age; psychotic symptoms may result from the systemic disease process, emerging comorbid major NCD or major depression, or the dopaminergic medications used to treat Parkinson's disease [29]. Complex, formed, and mobile visual hallucinations (often of people, animals, or objects) occur in over 20 % of patients receiving dopaminergic agents and appear to be dose related [29]. NCD associated with Parkinson's disease vs. NCD associated with Lewy bodies are clinically "more similar than different"; the major difference is in the timing of symptom onset (with motor symptoms preceding cognitive decline in Parkinson's disease and vice versa in Lewy body NCD).

Psychosis in *delirium* is different than in late-onset schizophrenia; misinterpretations, illusions, and visual hallucinations are more common, whereas delusions in delirium are usually transient and poorly systematized.

Psychosis in *major NCDs* differs from late-onset schizophrenia in that paranoid beliefs are often simple and visual hallucinations are more common. For instance, delusions (i.e., fixed, false beliefs) must be differentiated from misperceptions due to sensory or cognitive impairment (e.g., seeing a shadow on the wall could be mistaken for an intruder in the house). Delusional reports of theft by a geriatric patient may seem plausible at first and can delay recognition of a psychotic symptom.

Visual and somatic hallucinations may be more common in older than in younger patients, particularly when the psychosis is secondary to a medical condition (e.g., Parkinson's disease). Visual hallucinations must be differentiated from *illusions* and *visual release hallucinations* (or Charles Bonnet syndrome), which are caused by vision impairment. Hallucinations must be differentiated from *sleep hallucinations* due to hypnagogia/hypnopompia, a transition to and from sleep (daytime sleep episodes or at night) which may be attended by multiple sensory experiences ranging from barely perceptible to vivid hallucinations. Visual

hallucinations must also be differentiated from *rapid eye movement (REM) sleep behavior disorder*, which involves abnormal behavior during the REM sleep phase. REM sleep behavior disorder is most often associated with age, Parkinson's disease, multiple system atrophy, and major or mild NCD with Lewy bodies [31].

Auditory hallucinations must be differentiated from *tinnitus* or *carotid bruits* in the geriatric patients [29]. *Musical hallucinations*, in which a sound is perceived as instrumental music or songs, represent a rare disorder of auditory hallucinations most commonly caused by hypoacusis [32].

Adverse drug reactions and dosages must be reviewed when evaluating *medications* as causative agents for psychosis (e.g., antiparkinsonian drugs, anticholinergics, antihistamines, antidepressants).

Psychotic symptoms in *major depressive* or *bipolar disorder* are usually mood congruent, with common themes of persecution, guilt, nihilism, or grandiosity. The presenting symptoms of psychosis may differ in quality and intensity in older patients compared with younger patients. Differentiating *early-onset schizophrenia* from *very-late-onset schizophrenia-like psychotic disorder* is essential. Table 10.2 illustrates a comparison of their distinct characteristics [33].

Table 10.2 Clinical characteristics of early-onset vs. very-late-onset schizophrenia-like psychotic disorder (adapted from reference [33])

Clinical characteristics	Early onset (<40 years)	Very-late onset (>65 years)
Female predominance	–	++
Paranoid type	+ (often elaborate)	+ (often elaborate)
Paranoid delusions	–	+
Negative symptoms	++	–
Thought process disorder	+	–
Hallucinations	+ (especially auditory)	++ (multiple modalities: visual, tactile, olfactory, auditory)
Neuropsychological impairment:		
Learning	++	?++
Retention	–	?++
Progressive cognitive impairment	–	++
Brain structural abnormalities (e.g., strokes, tumors)	–	++
Premorbid functioning	++	–
Family history of schizophrenia	+	–
Sensory deficits (auditory, visual)	–	++
Risk of tardive dyskinesia	+	++
Daily antipsychotic dosage	++	+

Note: –, less common or absent, + common, ++ very common or marked, ?++ probably very common, but limited published data exist

10.2.3.2 Management

(a) Implement Urgent Measures for Self-Protection and to Prevent Harm to Others This is because psychotic behavior can result in physical aggression, accidents, suicide, or physical impairment due to refusal to treatment.

(b) Provide Immediate Treatment Geared Toward the Specific Cause of Psychosis and Tailored Based on Comorbid Conditions For psychosis associated with medical conditions, treatment of the underlying etiology will eventually lead to clearance of the psychotic symptoms. Frequently, environmental and psychosocial interventions (e.g., provide hearing amplifiers or hearing aids) are first-line treatments, with the judicious use of pharmacotherapy as needed.

Antipsychotics are often used to manage psychotic symptoms (hallucinations and delusions) and are started at low doses and up-titrated until there is clinical benefit. (See Chap. 3 for details regarding on-call pharmacotherapy principles.)

Clinical Recommendation

Typical antipsychotics such as haloperidol tend to increase tremor and worsen psychomotor retardation. The atypical antipsychotics like quetiapine and clozapine can effectively treat Parkinson-related psychotic symptoms because of their low EPS potential due to low degree of D₂ blockade. If the assessment reveals that depressive symptoms are the dominant-presenting problem, a trial of antidepressants may precede the introduction of antipsychotic medications in psychotic geriatric patients. Depressive disorders with psychotic symptoms may benefit from early use of electroconvulsive therapy (ECT).

10.2.4 The Suicidal Patient

Case Vignette While consulting in the psychiatric ED, you met Mrs. D, 78-year-old Caucasian female, brought in by ambulance after her spouse found her lying unresponsive on the bathroom floor next to empty bottles of two antidepressants and a blood pressure medication and with alcohol on her breath. Her spouse reported that Mrs. D had been worried about the upcoming wedding party for their daughter's oldest child, as their ex-son-in-law and his new wife (for whom he left their daughter) would be in attendance. Mrs. D started an argument with her spouse "for no apparent reason" and was very upset earlier in the day as he was heading out grocery shopping. You identified that the suicide risk factors were older age, white race, psychiatric illnesses (likely alcohol abuse, anxiety, and/or depression), medical illness (hypertension), negative life stressor (her child's divorce), and borderline personality traits (recently being angry and impulsive). You interviewed Mrs. D shortly after she was deemed medically stable. She was hopeless, extremely anxious, pessimistic about the future, and demanded to go home. You determined that Mrs. D was at-imminent risk of suicide and admitted her to the hospital on a psychiatric commitment order.

The after-hours, on-call physician will often be called to assess a geriatric patient's suicidal ideation and behavior. One or more psychiatric disorders are virtually ubiquitous among geriatric patients with suicidal ideation and/or behavior, and medical trainees frequently encounter suicidal patients in the course of their training rotations. Therefore, enhancing clinician knowledge and skill in working with patients at risk for suicide is crucial. Many types of self-harm behavior can be encountered in patients during an on-call shift, including ED patients with command auditory hallucinations to harm themselves, patients with personality disorders presenting with pathological defense mechanisms, older adults with malingering looking for a temporary shelter or food, psychiatric inpatients struggling to keep from taking their own lives, or medical inpatients and nursing home residents looking for a way out of physical pain. Establishing the etiology of the suicidality, ensuring provision of the immediate stabilization necessary for safety of the patient, and initiating appropriate treatment are paramount.

10.2.4.1 Assessment

(a) *Use a Stepwise Approach* Use a stepwise approach that starts with a general question and becomes more specific with each successive question. It is important to ask the patient about:

- *Hopelessness* or *thoughts of death*
- *Explicit thoughts of suicide*
- *Specific suicide plan* and how close the patient is to carrying out this plan
- *Intention* to carry out suicide plan
- *Means* for carrying out suicide plan
- Whether the patient thought what would happen *after his/her death*
- Presence of *command hallucinations* (e.g., hearing voices telling the patient to do things) and whether the voices tell the patient to kill or injure himself/herself or someone else
- Prior history of *suicide attempts* (the strongest predictor of death by suicide [34])
- *Family history* of suicide completion
- *Current/past psychiatric treatment*, as an inpatient or outpatient, and whether there has been medication, and which treatment has helped the patient most
- *Stressors* or *losses* happening in the patient's life or causing the patient to worry a lot and how long they have been going on
- *Active substance abuse* (e.g., ask "how much alcohol do you drink a day?" instead of "do you drink alcohol?")

Clinical Recommendation

Suicide risk assessment necessitates establishing a clinical rapport with the patient and conducting an assessment in a sensitive manner, utilizing a biopsychosocial framework.

(b) *Complete the Survey of the Risk Factors* Complete the survey of the risk factors that increase risk of suicide in the geriatric patient. These include the presence of one or more psychiatric disorders (especially depressive, psychotic, and substance use disorders; risk is higher with multiple comorbidities), personality disorders (e.g., borderline, narcissistic), negative life events (e.g., separation, divorce, death of a spouse), medical illness, pain (experienced or anticipated), functional impairment, and being an older white male [35]. Symptoms of borderline personality disorder such as mood dysregulation, impulsivity, and aggression are independent risk factors for suicide and self-harm behavior.

(c) *Survey the Protective Factors* Survey the protective factors or resiliency of the patient, which may mitigate the risk of suicide. These include recognizing meaning and purpose of life, adopting meaningful daily routines, active interests and social roles, caring for others and/or pets, maintaining social contact with family and friends, and exhibiting better healthcare practices including moderate alcohol consumption [35].

(d) *Perform or Review Recent Findings of a Physical Examination* Perform or review recent findings of a physical examination including evaluation of the patient's mental status. This will guide the on-call psychiatric consultant to exclude underlying medical cause to the symptom presentation (e.g., acute, untreated pain), understand the severity of the depression, identify the presence of psychotic symptoms of command auditory hallucinations, and whether the patient has recently been angry, demanding, or manipulative, which can be suggestive of substance abuse or personality disorders. General appearance is key. Note the patient's speech, eye contact, and motor activity. Depressed patients may have a blunted affect, avoid eye contact, and have psychomotor retardation, whereas patients in manic episodes may have agitation, pressured speech, and increased psychomotor activity. Note that akathisia (motor restlessness) can increase the risk of suicide. Refusal to eat, take life-sustaining medications, or follow medical advice can be forms of self-injurious behaviors often referred to as "indirect self-destructive behaviors," which can serve as a way of either communicating one's distress or an effort to hasten death. Some have proposed that indirect self-destructive behaviors are due to poor impulse control and physical isolation rather than depression per se [36, 37]. Screening tools for depression that could explain the patient's suicidality, such as the Patient Health Questionnaire-9 (PHQ-9), Patient Health Questionnaire-2 (PHQ-2), and Geriatric Depression Scale (GDS), represent rapidly administered tools that may provide important additional information [38]. For patients with aphasia, consider using a point-board, or a board with the scale and yes/no next to the items, and have patient point out correct answer.

(e) *Determine Whether the Patient is "At-imminent Risk of Suicide"* Determine whether the patient is "at-imminent risk of suicide" (within hours for committing suicide), if the patient [38]:

- (i) Expresses the *intent* to die
- (ii) Has a clear *plan*
- (iii) Has *access* to lethal means (e.g., a gun, prescribed medications for overdose)

Giving away belongings, rewriting a will, and making the rounds to express goodbye to people should increase suspicion of suicide risk. Factors that further increase risk of an imminent suicide are [38]:

- (iv) Hopelessness
- (v) Pessimism about the future
- (vi) Increased anxiety
- (vii) Command hallucinations directing suicide

Patients are at “short-term risk” if they are likely to commit suicide within days to weeks and at “long-term risk” if they have sufficient risk factors associated with an eventual death by suicide [38]. Any patient deemed at-imminent risk for suicide should be hospitalized immediately for treatment.

(f) Determine Whether the Suicide Assessment Is Part of a Request for a Physician-Assisted Death The on-call physician may be asked to assess a patient without a depressive disorder who contemplates suicide, particularly in jurisdictions where physician-assisted suicide has been legalized. Associated factors include illnesses that cause continuous pain or interfere with a patient’s autonomy and dignity, and patient-perceived limited quality of life. Referral to appropriate social and/or clinical services for a thorough evaluation is necessary. Standard protocols for this include multiple physician assessments (which may include a psychiatric assessment and absence of a current mood disorder).

(g) Upon Discharge, Provide Communication to the Patient’s Healthcare Clinicians Also, promote provision of interdisciplinary team-based care to ensure recurrent assessment of suicide risk and resiliency factors. Maintaining detailed clinical notes is crucial.

10.2.4.2 Management

(a) Keep the Patient Safe Search patient’s belongings for potentially dangerous objects to patient or others. The patient may not leave medical facility without a formal psychiatric evaluation. Those at high risk of suicide should be admitted to a specialized psychiatric service for further assessment, treatment, and suicide prevention strategies. For patients who refuse such an evaluation, it may be necessary to involuntarily hold them in the ED until a complete psychiatric and safety evaluation is performed, followed by an involuntary (or “civil”) commitment if necessary. Maintain one-to-one observation if clinically indicated. If the patient is safe for discharge home, arrange outpatient psychiatric follow-up, discuss the plan with patient’s PCP, and document patient’s contact information and additional emergency information. Note that current data on the use of “no-harm contracts” within the scope of acute management of suicide risk is equivocal and thus not recommended [35].

(b) Initiate Treatment for Major Depression and/or Alcohol Use Disorder, Comorbid Anxiety, or Agitation as the Initial On-Call Management Aggressively treating

agitated states may resolve a suicide crisis. Although this section emphasizes patient's safety, please refer to Sections 10.2.5 and 10.2.6 regarding actual depression and anxiety management. As indicated, referral to specialized outpatient services for psychotherapy is recommended.

Clinical Recommendation

Clinical interventions that have been empirically shown to help reduce or resolve suicidal ideation, behavior, and/or death among geriatric patients support combination antidepressant pharmacotherapy and empirically supported psychotherapies (e.g., cognitive, interpersonal, or psychodynamic psychotherapies) [39, 40].

(c) *Other Strategies* Refer the depressed, socially isolated, or otherwise at-risk geriatric patients to a telephone distress outreach and support program, collaborative/shared care programs for ongoing management, and consider means restriction (e.g., restricting access to alcohol and firearms, detoxifying gas ovens, restriction of medication pack sizes).

10.2.5 The Depressed Patient

Case Vignette You were the psychiatrist on call and asked by your emergency physician colleague to see Mr. E for depression. Mr. E, an 85-year-old male with a prostate cancer with bone metastases, presented to the hospital for “failure to thrive.” He complained of anhedonia, insomnia, anergia, anorexia, 35-lb weight loss, and a passive death wish. Upon examination, he denied being depressed but endorsed being lonely, tired of living, and ready to die. He attributed his insomnia to bone pain and the rest of his symptoms to his cancer. However, his anhedonia was one element that increased your confidence in a diagnosis of major depressive episode.

Depression is common in geriatric population, but there are suboptimal rates of clinical detection, explained in part by the fact that geriatric patients are less likely to endorse the word “depressed” or low mood and are more likely to present with somatic symptoms, and other medical conditions can confuse the diagnosis of depression [35]. Depression in geriatric patients usually presents as a gradual/subacute onset with mild cognitive impairment, mood being worse in the morning with improvement toward the end of the day and is present for at least the previous 2 weeks. It may be differentiated from delirium which presents as an acute onset with fluctuating symptoms that worsen toward the end of the day (see Fig. 10.3). To aid accurate diagnosis, it is better to describe the actual signs and symptoms rather than just say that the patient “appears depressed.”

Clinical Recommendation

Recognizing geriatric depression is imperative because it is associated with poor functional status, physical symptoms (e.g., somatization), cognitive impairment, disability, increased utilization of healthcare resources, and medical mortality and suicide.

The on-call physician can be consulted in critical situations in which depression is suspected in some patients, and a high alertness to recognize and accurately diagnose depression is a required skill. As in Mr. E's case, clues to suspect geriatric depression include the following [41]:

- Persistent complaints of fatigue, weight loss, multiple diffuse symptoms, or persistent complaints of pain (e.g., headache, gastrointestinal, and joint pain)
- Food refusal, neglect of personal care, treatment refusal, or “failure to thrive”
- Recent bereavement with unusual and extreme symptoms (e.g., active suicidal ideation, guilt not related to the deceased, psychomotor retardation, mood congruent delusions)
- Apathy, withdrawal, or isolation
- Persistent sleep difficulties
- Persistent complaints of memory difficulties
- Frequent calls and visits to healthcare professionals, often for ill-defined, nonspecific complaints
- Recurrent or prolonged hospitalization or delayed rehabilitation
- Hospital discharge refusal

10.2.5.1 Assessment

(a) Use Age-Appropriate Depression Screening Tools This is applicable in patients in whom there is any concern for depressive disorder. The *PHQ-2* [9] is performed by an interviewer who asks the patient: “Over the past 2 weeks, how often have you been bothered by either of the following problems? (i) Little interest or pleasure in doing things; (ii) feeling down, depressed, or hopeless.” Other screening tools for geriatric inpatients with mild or no cognitive impairment include the self-rating *GDS*, the self-rating *SELFCARE scale*, and the *Brief Assessment Schedule Depression Cards (BASDEC)*. The *Cornell Scale for Depression in Dementia*, which is an observer-rated instrument, is recommended for patients with moderate to severe cognitive impairment [41].

(b) Conduct a Biopsychosocial Assessment This assessment follows a positive screen for depression, which include:

- Review of diagnostic criteria for types of depression as outlined in the Diagnostic and Statistical Manual, 5th edition (DSM-5) [21] (e.g., minor or major depressive

disorder; bipolar I or II disorder, current depressive episode; persistent depressive disorder – formerly dysthymic disorder; adjustment disorder with depressed mood)

- Estimate of severity, including the presence of melancholic, psychotic, and/or catatonic symptoms
- Risk assessment for suicide (see Section 10.2.4 for a method for directly asking patients about suicidal ideation, intent, and plan)
- Review of current stressors and life situation (e.g., grief, losses)
- Personal and family history of depressive or bipolar disorder
- Review of medications and substance use
- Review of functioning and/or disability and social support
- Physical examination and laboratory investigations looking for evidence of medical illness that could contribute to or mimic depressive symptoms (e.g., hypothyroidism)
- Mental status examination, including assessment of cognitive function

(c) *Obtain Collateral Information* Information can be obtained from the patient's family, or the staff from the retirement home or nursing home, who often have an in-depth knowledge of the patient's usual status and coping skills.

10.2.5.2 Management

(a) *Consider Treatment with Antidepressants* This is for symptoms of major depression. Antidepressants should be used when indicated, even in patients with multiple comorbidities and serious illnesses. Comorbid psychiatric disorders, particularly generalized anxiety and substance use disorders, should be identified and appropriately treated as they will adversely influence the outcome of depressive disorder. Note that minor depression of less than 4 weeks' duration and adjustment disorder with depressed mood are initially treated with supportive psychosocial interventions; however, brief use of anxiolytics/benzodiazepines or hypnotics for sleep disturbance in patients with severe life stressors may be considered. If symptoms persist after resolution of the stressor or for more than 4 weeks after initiation of the psychosocial interventions, revise the diagnosis and consider antidepressant medication or more specific psychotherapy [41].

Management considerations when initiating antidepressant treatment in geriatric patients are presented in Fig. 10.5 [41–43]. (Also see Chap. 3.)

Clinical Recommendation

Select an antidepressant with the lowest risk of drug-drug interactions (e.g., sertraline, citalopram, escitalopram, venlafaxine, bupropion, mirtazapine) and the lowest anticholinergic properties. Monitor for suicidal ideation and risk when initiating an antidepressant.

Recommend	Monitor	Avoid
<ul style="list-style-type: none"> • Choose an AD with the lowest risk of drug-drug interactions (e.g., sertraline, citalopram, escitalopram, venlafaxine, bupropion, mirtazapine). • Select ADs with the lowest anticholinergic properties. • Add an AD in depressed patients with bipolar disorder previously stabilized on a mood stabilizer [41]. • Consider use of lithium, antipsychotics, and ECT (although these are not geriatric-age specific indications). Consider an urgent referral for ECT treatment in cases of: acutely suicidal patients, required rapid response to maintain safety, depressed patients with psychotic features, AD intolerance, or a history of unstable medical conditions. 	<ul style="list-style-type: none"> • Monitor for suicidal ideation and risk when initiating an AD. • Check sodium levels before switching to another AD because of poor response or tolerance, or when displaying symptoms of hyponatremia (e.g., fatigue, malaise, delirium). Document the need to check sodium levels 1 month after initiating SSRIs/SNRIs, especially if concurrent medication use that can cause hyponatremia (e.g., diuretics) [41]. • If SSRIs/SNRIs are used, monitor for serotonin-related side effects (e.g., agitation) and acute hemorrhagic stroke or other active bleeds. If citalopram is used, especially when concomitantly used with psychotropics known to extend QTc (e.g., quetiapine), monitor for QTc values; citalopram should be discontinued if persistent QTc >500 msec [42]. • If TCAs are used, monitor for postural hypotension, cardiac symptoms, anticholinergic side effects, and serum drug levels. • If benzodiazepines must be used to prevent acute withdrawal, consider a review and gradual discontinuation when feasible. • Mood stabilizers require monitoring over time for possible short-term and longer-term adverse events. 	<ul style="list-style-type: none"> • Avoid initiating fluoxetine, paroxetine, fluvoxamine due to CYP450 drug-drug interactions. • Avoid initiating citalopram in patients with known personal or family history of QTc prolongation. • Avoid SSRIs/SNRIs in active cerebral or other bleeds, history of SIADH, current hyponatremia. • TCAs should not be used as a first-line treatment due to their side effect profiles (e.g., sedation, orthostatic hypotension, anticholinergic side effects, QTc prolongation, and ventricular arrhythmias [43]). • Avoid initiating TCAs in patients with history of conduction abnormalities on ECG or postural hypotension. • Avoid TCAs due to their high lethality risk in overdose. • Avoid adding on benzodiazepines due to side effects in the elderly.

Note: AD, Antidepressant; CYP450, cytochrome P450; ECG, electrocardiogram; ECT, electroconvulsive treatment; SIADH, syndrome of inappropriate antidiuretic hormone; SNRIs, serotonin norepinephrine reuptake inhibitors; SSRIs, selective serotonin reuptake inhibitors; TCAs, tricyclic antidepressants.

Fig. 10.5 On-call management considerations for antidepressant initiation in geriatric patients [41–43]

(b) Observe the Patient for Signs of Deterioration This is for cases where there are other underlying or masked medical problems (Fig. 10.5).

10.2.6 The Anxious Patient

Case Vignette Ms. F, a 78-year-old female, lived on her own, had a long-standing history of generalized anxiety disorder, and was seen frequently over the previous few weeks by her PCP for increased worries around her physical health following a fall at home. You were the on-call psychiatrist who saw her now in the ED for unexplained complaints of dizziness and shakiness. Her sleep and appetite have recently deteriorated, with some mild weight loss. She had asthma, hypothyroidism, and type 2 diabetes mellitus. Zopiclone 7.5 mg at bedtime for insomnia was added 1 week previously by her PCP with no response. Ms. F told you that she stopped her citalopram 20 mg daily 2 months previously, without her physician’s knowledge, because she read that medication could contribute to the risk of falls. You

corroborated the information with her PCP over the phone. You determine that the treatment for her physical illnesses was optimal. You evaluated the severity of her anxiety symptoms and whether there were any behavioral changes. She did not meet criteria for a diagnosis of major depressive disorder. Generalized Anxiety Disorder-7 (GAD-7) score was 15 (indicative of severe anxiety). You decided to resume her citalopram, provided psychoeducation about treatment, including relaxation techniques, and suggested frequent follow-up with her PCP, particularly within the first month of treatment or dose change, to encourage adherence and monitor response to treatment. You recommended concurrent cognitive behavioral therapy (CBT) if Ms. F would be interested. You suggested her treatment with zopiclone should be of short duration and be discontinued by her PCP when appropriate.

Severe anxiety can be disabling and can be associated with substance overdose/intoxication or withdrawal, suicidal behavior, and impaired judgment. Anxiety can also be a symptom of acute physical illness, which can result in significant morbidity or mortality if not treated appropriately.

10.2.6.1 Assessment

(a) A thorough assessment is warranted even if the patient is calm and relaxed by the time of the on-call clinician's arrival.

(b) Rule Out Underlying Medical Problems Carefully examine the patient who describes dizziness, fainting, or fear of dying because these symptoms can mimic physical illness (e.g., hypoglycemic episodes). If the patient is pacing, fidgety, and unable to stand still, consider akathisia, which is associated with antipsychotics and, to lesser degree, antidepressants. Akathisia can occur at any time during the treatment, although is more likely to occur at initiation or increase of the medication dose. Under-recognition of akathisia could lead to increasing the dosage of the antipsychotic or SSRI, exacerbating the problem.

Clinical Recommendation

Akathisia may be differentiated from anxiety as being a restlessness/agitation, especially in the lower extremities, that stems from the muscles instead of from the mind, and patients may feel worse if asked to stand still or sit. Pronounced rhythmic or regular movements are more characteristic of akathisia, whereas complex behaviors are more characteristic of psychomotor agitation.

The medical history and medication list and dosages are important to review. For example, misuse of bronchodilators, dopamine agonists, and thyroid replacement drugs, drug-drug interactions from concurrent use of medications, or recent addition or discontinuation in medications may be responsible for the onset of anxiety. Abrupt discontinuation of benzodiazepines or antidepressants can induce withdrawal that can manifest as anxiety, irritability, dizziness, lethargy, and headache, particularly those with shorter half-lives such as alprazolam and moclobemide.

(c) *Order Vital Signs* Do this frequently, if feasible, even if the staff already took vital signs, as this may have a calming effect on the patient.

(d) *Obtain a Drug and Alcohol History* This includes caffeine-containing and over-the-counter products (e.g., cold remedies). Herbal medications often contain stimulants and sympathomimetics (e.g., ephedrine) and can precipitate anxiety, especially in high doses. If substance abuse is suspected, order a urine toxicology screen and treat accordingly. Some patients who abuse substances can either exaggerate or fabricate symptoms in order to gain access to more drugs, or can self-medicate an underlying anxiety disorder. Therefore, discuss with the staff if the patient's behavior before seeing the patient has been consistent with anxiety.

(e) *Conduct a Full Psychiatric and Physical Examination in a Patient with No Prior History of Anxiety* The physical examination should be directed toward evaluating the patient's somatic complaints and any preexisting medical conditions that could contribute to anxiety to rule out a possible medical cause, if any. On mental status examination, cognition, insight, and judgment may appear impaired, but sensorium is generally clear. Psychotic symptoms can trigger secondary anxiety.

10.2.6.2 Management

(a) *Taper or Discontinue a Medication or Substance That Could Have Induced Anxiety* Withholding the offending drug may alleviate the symptoms. Anxiety due to substance abuse/withdrawal should be approached as clinically indicated. If akathisia is suspected, attributed to antipsychotic and/or antidepressant, consider lowering the dose of the antipsychotic (or change to an antipsychotic with lower D₂ blockade, e.g., quetiapine) and/or antidepressant (or change to a different class of antidepressant). If not improved, consider adding a benzodiazepine, low-dose propranolol, or the alpha-adrenergic drug clonidine, especially if the patient is in great distress [44]. These medications can have adverse effects, including confusion and gait instability; therefore, initial treatment should be for 5–10 days and followed by a gradual reduction in dose, although some may require continued treatment for the duration of antipsychotic or antidepressant treatment. Akathisia usually disappears when antipsychotic or antidepressant treatment is discontinued.

(b) *Initiate Anxiolytic Medication, If Necessary*

Clinical Recommendation

Reassuring the patient, identifying the cause for anxiety, and teaching basic CBT/relaxation techniques (e.g., deep diaphragmatic breathing) are adequate interventions before considering a medication. (See Chap. 4.)

Anxiety secondary to psychotic symptoms may benefit from additional scheduled or PRN small doses of antipsychotic medications. Benzodiazepines can be effective

agents for the treatment of acute anxiety. Hepatic dysfunction and medications can inhibit the metabolism (i.e., oxidation) of certain benzodiazepines. However, lorazepam, oxazepam, and temazepam are least affected by these interactions and, thus, favorable choices in geriatric patients. Caution is required when prescribed because benzodiazepines act synergistically with other central nervous system depressants (alcohol, opioids, and barbiturates). Important adverse events to consider when administering benzodiazepines in geriatric patients are gait disturbance, increased risk of falls and fractures, respiratory depression, drowsiness, cognitive impairment, disorientation, delirium, depressive symptoms, and paradoxical disinhibition. If signs of paradoxical disinhibition occur, benzodiazepines should be discontinued. Second-line pharmacological therapies should be considered, including low-dose antipsychotics, especially if behavioral dysregulation is severe.

(c) Other Supportive Strategies Provide a secure, nonstimulating environment for the patient, with intermittent observation. Allow the anxious patients to express their concerns, as this may alleviate their anxiety.

10.2.7 The Addicted Patient

Case Vignette Mr. G, a 68-year-old retired police officer, was seen in the ED for upper abdominal pain due to alcohol-related erosive gastritis. He had a history of hypertension, type 2 diabetes mellitus, and osteoarthritis. He endorsed drinking a bottle of wine every evening on his own at home. He had no other psychiatric history. He was not sure he wanted to stop drinking but worried that it would further complicate his already compromised physical health. Never previously a problem, he admitted to a growing dependence on alcohol especially after a number of events that disrupted his life: his retirement and the death of his son (his only child) due to an inadvertent cocaine overdose 3 years previously and then the break-up of his long marriage a year later. He was financially secure, had a couple of male friends, and pursued an interest in model trains. He was not interested in attending Alcoholics Anonymous because he stated he did not share their ideology. Before being discharged home from the ED, Mr. G received brief alcohol counseling, and he had agreed to pursue an outpatient treatment program for alcohol harm reduction. He stated that he read about naltrexone and acamprosate and asked the emergency physician whether he should be taking one of them for his alcohol problem. You were the on-call psychiatrist and your opinion about this was sought.

Addictions in geriatric patients are most commonly due to benzodiazepines/hypnotics and alcohol, unlike younger patients who abuse a wide range of drugs. But this may soon change to include other drugs because of the growth of the geriatric population and cohort changes (e.g., the aging of middle-aged abusers of other substances). Due to the high prevalence of sleep disturbances in geriatric patients, benzodiazepines and other hypnotics are frequently prescribed, sometimes resulting in abuse. Chronic pain is by far the most common reason for nonmedical use of prescription pain medications later in life [45].

The on-call physician must differentiate between low-risk drinking, at-risk or problem drinking, and alcohol dependence when evaluating a geriatric patient. Contrary to low-risk drinking, any illicit substance use is considered to have greater risk than benefit.

Clinical Recommendation

According to the National Institute on Alcohol Abuse and Alcoholism, the recommended consumption of alcohol, or the low-risk drinking limit, in those aged 65 years or older is lower than for younger adults and is no more than one standard drink per day, or seven drinks per week, and no more than three or four drinks on any drinking day [46]. A standard drink is defined as a 5-ounce glass of wine, a 12-ounce bottle of wine cooler, a 12-ounce can of beer, a 1.5-ounce shot of hard liquor, or a cocktail with 1.5-ounce shot.

Factors contributing to the lower drinking limits for older adults compared with younger adults include:

- Decreased lean body mass and body water volume
- Diminished efficiency of hepatic metabolism
- Increased brain sensitivity to alcohol
- Increased medical comorbidity
- Increased alcohol-drug interactions due to polypharmacy

Older adults engaging in problem, or at-risk use, are drinking at a level that does not yet meet the criteria of dependence, and thus clinicians may underestimate the risks of this level of consumption. Geriatric patients often present to medical attention with subtle or confusing symptoms, which can suggest a pattern of substance misuse, especially alcohol abuse. Some red flags for substance abuse problems in geriatric patients are daily use of alcohol, physical stigmata of chronic alcohol use (e.g., mild tremor, enlarged and tender liver), nutritional deficiencies, labile vital signs (e.g., fluctuating blood pressure and tachycardia, suggestive of alcohol withdrawal), anemia or thrombocytopenia (i.e., suggestive of chronic alcohol use), liver chemistry abnormalities (e.g., elevated transaminases/gamma-glutamyl transpeptidase), new seizure activity, depression, anxiety, sleep disorders, or neurocognitive disorders, “aftershave/mouthwash syndrome” (to mask the odor of alcohol), history of frequent trauma, falls, fractures, or accidental injuries, and frequent use of ED services [46, 47].

10.2.7.1 Assessment

(a) Use of Screening Tools This may help detect geriatric substance use in on-call practice, which helps initiate provision of appropriate management [13–15, 48, 49] (see Table 10.3).

Table 10.3 Select brief screening tools for geriatric substance use [13–15, 48, 49]

Screening instrument	Description
CAGE questionnaire	A 4-item question tool: (1) Have you ever felt you should cut down on your drinking? (2) Have people annoyed you by criticizing your drinking? (3) Have you ever felt bad or guilty about your drinking? (4) Have you ever had a drink first thing in the morning (eye opener) to steady your nerves or get rid of the hangover? The cutoff positive score is 2 affirmative answers [13], but some suggest only 1 affirmative answer when screening the older patients [14]
Michigan Alcoholism Screening Test – Geriatric Version (MAST-G)	A 24-item tool that includes elderly-specific consequences, with a cutoff of 5 affirmative responses. Its length may hinder routine use even in shortened form [14]. Both the CAGE and the MAST-G are sensitive to capturing alcohol use disorders in the elderly, but neither the CAGE nor the MAST-G distinguishes recent from remote drinking behavior
Alcohol Use Disorders Identification Test (AUDIT)	A 10-item tool that focuses on consumption; it has a cutoff score of 8, but is less sensitive than the CAGE [14]
Alcohol-Related Problems Survey (ARPS)	An 18-item, self-administered tool developed for use in geriatric patients with medical comorbidity or who used medications that placed them at risk for adverse events; it detects hazardous and harmful drinkers usually not identified by the three screens CAGE, MAST-G, and AUDIT [15]. Time to administer is 10 min. Although this tool is not designed for emergency care settings, efforts are needed to include geriatric-specific consequences and meaningful consumption thresholds in a brief, easily applied screen in such acute settings
Screener and Opioid Assessment for Patients with Pain (SOAPP)	A brief, self-administered tool used to assess suitability of long-term opioid therapy for chronic pain patients [48]
Current Opioid Misuse Measure (COMM)	A brief, self-report measure of current aberrant drug-related behavior [49]

(b) *Obtain a Careful History* This includes recent and past use of alcohol, tobacco, anxiolytic, hypnotic, and other psychoactive drugs (including prescribed to the patient, prescription medications from others borrowed or otherwise diverted, and over-the-counter medications). Questions about total amount of alcohol consumption are less useful than questions about frequency, pattern, and consequences of excessive drinking. It is also important to assess for any comorbid psychiatric disorders. Depressive or anxiety disorders are very common in patients who are alcohol dependent and often contribute to social isolation [35]. Symptoms of substance abuse are often missed in geriatric patients because of their multiple comorbid conditions that may present atypically or nonspecifically in later life.

(c) *Laboratory Tests* The most useful laboratory tests to confirm alcohol-abuse problems are gamma-glutamyl transpeptidase (GGT), mean corpuscular volume (MCV), and carbohydrate-deficient transferrin. The serum GGT measurement is one of the most widely used laboratory tests for heavy alcohol use. However, nonalcoholic liver disease, hyperthyroidism, and use of anticonvulsants can elevate

GGT levels [47]. MCV is less sensitive than the GGT measurement, but elevated MCV and GGT levels should raise suspicion about alcohol abuse [47]. Carbohydrate-deficient transferrin test is used to screen for excessive alcohol consumption. A urine toxicology screen is the best test to confirm problems with other drugs.

(d) Assess the Need for Medical Detoxification A history of severe withdrawal delirium and the presence of medical comorbidities such as coronary artery disease, seizure disorder, hypertension, and diabetes mellitus increase the morbidity of alcohol withdrawal and warrant inpatient detoxification. As they become medically ill, geriatric patients can decrease or cease their heavy alcohol consumption over days or weeks, which can precipitate withdrawal. Therefore, collateral information is necessary for a careful review of alcohol consumption just before hospitalization.

Hospitalized geriatric patients may be particularly vulnerable to alcohol or benzodiazepine withdrawal if clinicians are unaware of the use of these substances. Alcohol withdrawal can range from unnoticeable or mild to severe and life threatening symptoms, which may require on-call acute intervention. The severe symptoms associated with alcohol withdrawal include autonomic hyperactivity (e.g., sweating, tachycardia, hypertension), psychomotor agitation, insomnia, nausea, vomiting, anxiety, hand tremor, transient visual, tactile, or auditory hallucinations, delirium, seizures, and coma [21]. However, confusion, rather than tremor, may be the predominant early clinical sign of geriatric alcohol withdrawal [22]. Fluctuations in vital signs are less helpful in monitoring withdrawal in older patients, necessitating the use of standard withdrawal assessment scores, such as the Clinical Institute Withdrawal Assessment for Alcohol (CIWA-Ar) Scale [50]. Benzodiazepine withdrawal symptoms are similar to alcohol withdrawal symptoms and are also potentially life threatening. Opioid withdrawal has distinct symptoms including dysphoric mood, insomnia, diarrhea, nausea, vomiting, muscle aches, lacrimation, rhinorrhea, pupillary dilation, piloerection, sweating, yawning, and fever [21]. (Also see Table 16.2 for early vs. late nonpsychiatric symptoms of opioid withdrawal.)

10.2.7.2 Management

(a) Treatment for Alcohol Use Disorders Treatment for alcohol withdrawal delirium. Alcohol withdrawal delirium (or delirium tremens) typically occurs 2–10 days after alcohol cessation or decreased use and should be part of the differential diagnosis in any confused geriatric patient. (Also see Section 10.2.1 on the confused patient.) Benzodiazepines remain the mainstay of pharmacological management. Shorter acting benzodiazepines such as lorazepam are the agents of choice in geriatric patients, due to uncomplicated metabolism and shorter half-life, leading to ease of dose adjustment.

Clinical Recommendation

Note that the symptom checklist of a withdrawal screening tool such as the CIWA-Ar contains features common to delirium related to general medical conditions, and therefore these symptoms may be solely attributed to alcohol withdrawal, tripping the excessive use of benzodiazepines [51].

Antipsychotics may be considered when other medical causes of delirium complicate alcohol withdrawal; however, they may lower the seizure threshold and must be used with careful monitoring. Antipsychotics can also be added to benzodiazepines if agitation, perceptual disturbances, or disturbed thinking cannot be adequately controlled with benzodiazepines alone. Geriatric patients should be frequently reevaluated for the control of symptoms and the development of excessive sedation with benzodiazepines. Benzodiazepines should be tapered following alcohol withdrawal rather than abruptly discontinued. Administration of thiamine is recommended to prevent or treat Wernicke encephalopathy or Wernicke-Korsakoff syndrome.

Treatment for Alcohol Dependence Naltrexone and acamprosate have both been US FDA and Health Canada approved for the treatment of alcohol dependence. Naltrexone 50 mg daily appears safe in older patients and is helpful in reducing cravings, avoiding relapse to heavy drinking, and achieving/maintaining abstinence [46]. Acamprosate has proven effective in the maintenance phase of abstinence [46]. Acamprosate has not been studied in geriatric patients, but caution is needed when creatinine clearance is less than 50 mL/min. In Mr. G's case, he was not yet motivated to reach abstinence, and, therefore, naltrexone was the best choice to help reduce his drinking, with the eventual goal of abstinence. The on-call clinician should apply brief alcohol counseling techniques (see Chap. 4), connect patients and families with community resources, such as Alcoholics Anonymous and Al-Anon, particularly groups oriented toward the older adults, or refer to formal treatment programs.

(b) Treatment for Non-alcohol Use Disorders While illicit substance use is less common in this population, persons aged 65 years or older consume more prescribed and over-the-counter medications than any other age group [46].

It is particularly risky for the geriatric patients to abuse *benzodiazepines*, as there is a positive correlation between the use of benzodiazepines and confusion, falls, and hip fractures [52]. Benzodiazepine withdrawal symptoms in geriatric patients are more likely to include confusion and disorientation and are less likely to include anxiety, insomnia, and perceptual changes [53]. Treatment of benzodiazepine dependence consists of a slow tapering of the medication. If the dependence is to a short-acting agent (e.g., alprazolam, triazolam, temazepam), conversion to an equivalent dose of a longer acting agent (e.g., lorazepam, clonazepam) may be done first, followed by slow tapering of this second medication.

The abuse of *opioids* is less common among geriatric patients, except if they have a history of abuse at a younger age or in the presence of comorbid alcohol abuse. Opioid detoxification of the geriatric patient often requires a medical setting because of the increased likelihood of comorbid medical illnesses. When on-call physicians assess patients seeking opioid pain medication, particularly in the ED settings, they should adhere to strict rules in order to minimize the risk of abuse and dependence. These include the following [54]:

- Document the encounter and have a progress note for every prescription written or telephoned to a pharmacy.

- Explain why a controlled drug is necessary, what alternatives have been considered, and document follow-up plans.
- Obtain an informed consent from the patient so there is no doubt about the treatment plan.
- Do not provide automatic refills.
- Assess all patients for past or present substance abuse and psychiatric illness.
- Lost, stolen, or misplaced medication should not be replaced; consideration of replacement should occur at a clinic visit with their PCP.
- Avoid “as-needed” or PRN medications.
- Do not prescribe long-acting or controlled release opioids (e.g., oxycontin, fentanyl patches, methadone) for acute pain.
- Opioids are generally contraindicated in patients currently addicted.
- Refer patients who are addicted to opioids to 12-step programs (e.g., Narcotics Anonymous, Pills Anonymous).

(c) Assess Whether There Are Concerns About Substance Use and Driving Physicians need to be familiar with the signs and symptoms that would raise concerns about drinking and driving. Screening, assessment, and appropriate referrals need to be considered, in addition to reporting patients to the government agency which licenses drivers, in accordance with applicable local legislation.

(d) Encourage Follow-Up with Members of the Patient’s Caregiver Team Document care needs of geriatric patients with chronic pain who misuse opioids. Communicate your findings to the caregiver team, including the PCP.

10.2.8 The Insomnia Patient

Case Vignette Mr. H, a 71-year-old retired businessman, was recently admitted to a medical ward for uncontrolled hypertension, now under fairly good control with a diuretic. He had no history of substance misuse, was financially secure, exercised regularly, had an active social life, but had an unfulfilling relationship with his wife. He did not see divorce as an option. You were the on-call physician and asked to manage his chief complaint of insomnia. Selective review of the chart and examination of Mr. H revealed a long-standing, initial, and middle insomnia. He told you that insomnia was worse if he did not take lorazepam 0.5 mg at bedtime (prescribed for years by his PCP); trazodone 25 mg and mirtazapine 7.5 mg did not help. You noticed that lorazepam was not on his current medication list. You suspected underlying depression as a cause for his insomnia and joylessness, but there were no other symptoms or signs of major depression. Mr. H was not in any acute distress. You noticed the diuretic as a new factor for worsening his insomnia by increasing the rate of nocturnal voiding. Polysomnography study was not available. You elected to renew the medication order for lorazepam and asked the attending physician to review management of his insomnia the following day.

Sleep disturbance is a common complaint in geriatric hospitalized patients and is often secondary to existing medical and psychosocial morbidity. The principal psychiatric or physical illness, as well as medications (e.g., antidepressants, antihypertensives), can cause sleep disruption.

10.2.8.1 Assessment

The on-call physician should avoid prescribing sedating medications to geriatric patients with insomnia when requested by a staff member over the phone, without first assessing the situation.

(a) Before Seeing the Patient, Clarify with the Staff Clarify over the phone the following:

- Who requests help, the patient or the staff
- What the admission diagnosis is
- When the patient was admitted to the hospital
- Whether the patient had complaints of insomnia previous to this consult, and if so, what types of treatment were suggested, and whether they were beneficial
- If there has been any recent change in the patient's clinical status or medications
- If the patient has been anxious, agitated, or acting bizarrely, which may require a prompt evaluation (also refer to Section 10.2.2 on the violent patient)

(b) Conduct a Chart Review and History to Determine the Etiology of Insomnia Take a detailed history of insomnia, including the onset, duration, and nature of the patient's sleep complaint, severity, and impact on daytime function. Review factors that can be associated with insomnia, such as:

- Environmental (e.g., noisy or new environment for recently admitted patients, jet lag, situational anxiety, disturbed circadian rhythms because of daytime naps, nighttime disrupted sleep)
- Neuropsychiatric disorders (e.g., depressive, bipolar, anxiety, or psychotic disorders with intrusive hallucinations or paranoia, NCDs, Parkinson's disease)
- Systemic illness (e.g., pain, heart disease, thyroid disease)
- Medications (e.g., diuretics, antihypertensives, dopamine agonists, corticosteroids, cholinesterase inhibitors, antidepressants, psychostimulants); it is imperative to elicit recent changes in prescribed or over-the-counter medications and to recognize and avoid potentially inappropriate medications
- Substance use (e.g., caffeine, nicotine, cocaine)
- Substance withdrawal (e.g., alcohol, benzodiazepines, opioids)
- Other sleep-wake disorders associated with insomnia in geriatric patients (e.g., obstructive sleep apnea, advanced sleep phase syndrome, REM sleep behavior disorder, restless legs syndrome). (Also see Chap. 17 for section of disturbances of sleep and parasomnias.)

Be cognizant of the age-related physiological changes of sleep, which include:

- Longer duration to initiate sleep
- Decreased threshold of arousal, increased number of awakenings, and sleep experienced as interrupted and less restorative
- Decreased total sleep time
- Advanced sleep phase, experienced as difficulty in staying awake in the evening and waking earlier than the younger adults
- Earlier awakening (without a phase advance)
- Dream content may be distressing

Clinical Recommendation

The clinician's task is to distinguish symptoms of benign sleep difficulties from underlying conditions that require further evaluation and for which a sedative/hypnotic medication may be contraindicated (e.g., delirium other than alcohol related, sleep apnea, hepatic or respiratory failure, myasthenia gravis, or concurrent use of opioids due to potentiation effect).

10.2.8.2 Management

(a) Treat the Underlying Medical Problems When possible, select a medication for insomnia that also treats the underlying condition. As in Mr. H's case, the on-call physician can consider renewing the medication order for insomnia if the patient is not in acute distress and has a history of difficulty initiating or maintaining sleep that responded well to that medication in the past. If there is no daytime compromise in function, monitor the insomnia and defer treatment with hypnotics/benzodiazepines. If insomnia is debilitating, determine the need for a hypnotic/sedative medication in accordance with the metabolic profile for drugs and the patient's hepatic and renal function.

Clinical Recommendation

Once a hypnotic/sedative medication is selected during the on-call shift, start with a low dosage, limit the treatment period, and document the need for the attending physician to continue monitoring for improvement, watch for drug-related adverse effects (e.g., residual drowsiness, confusion), and address the risk of falls.

Figure 10.6 summarizes the on-call pharmacotherapy options for insomnia in this population [55–57].

(b) Recommend Non-pharmacological Approaches Always recommend non-pharmacological approaches to geriatric patients with chronic insomnia, tailored to the respective institutional setting (see Table 10.4) [58].

Recommend	Avoid
<ul style="list-style-type: none"> • <i>GABA-benzodiazepine receptor agonists used as hypnotics</i>, initial doses: eszopiclone 1 mg, zopiclone 3.75-5 mg, zaleplon 5 mg, zolpidem 5 mg. • Short-to-intermediate acting <i>benzodiazepines</i>, initial doses: triazolam 0.125 mg for sleep initiation, temazepam 7.5 mg for sleep maintenance. • Other options, initial doses: <i>melatonin-receptor agonist</i> (ramelteon 8 mg in adults, not studied in elderly), or <i>orexin-receptor antagonist</i> (suvorexant 10 mg in adults, not studied in elderly). • <i>Sedating TCAs</i>: these can moderately reduce sleep latency and increase total sleep time. <i>Nortriptyline</i> is preferred to amitriptyline due to fewer anticholinergic effects. <i>Doxepin</i>, initial dose: 3 mg, 30 minutes before bedtime, increase to 6 mg if indicated (effective for frequent or early morning awakenings and inability to return to sleep). • <i>Mirtazapine</i>, initial dose: 7.5-15 mg (especially if insomnia is due to depression). • <i>Trazodone</i>, initial dose: 25-50 mg (in patients with chronic "sundowning" - nighttime agitation due to major neurocognitive disorder). • <i>Monitoring tips</i>: (a) Closely monitor patients with a history of substance abuse given benzodiazepines. (b) Use the lowest effective dose for the shortest duration possible. (c) Hypnotics should only be continued beyond 4 weeks when documented benefits clearly outweigh actual or potential harms and when other techniques (e.g., behavioral interventions) have not been effective. (d) For those on benzodiazepines for >1 year, it is prudent to taper dose by approx. 10 % every 2-4 weeks until discontinued. Peak-trough variability can be sufficient to cause withdrawal symptoms when tapering short acting benzodiazepines, and thus consider switching to an alternative with a longer half-life to prevent withdrawal. 	<ul style="list-style-type: none"> • Avoid use of most <i>antipsychotics</i> and <i>antihistaminics</i> due to daytime sedation and other side effects. However, <i>quetiapine</i> 12.5-25 mg may be trialed if other options failed. • Avoid <i>amitriptyline</i> due to anticholinergic effects and possible confusion. • <i>Doxepin</i> ≥25 mg is nonselective and responsible for undesired anticholinergic, antiadrenergic, and cardiac conduction side effects. Doxepin is contraindicated in patients with severe urinary retention and narrow angle glaucoma. • Avoid <i>benzodiazepines</i> with <i>long half-lives</i> because of cumulative effect when given repeatedly, causing sedation with possible delayed in expression by days or weeks. • Avoid <i>beta-blockers</i>, especially lipophilic compounds (e.g., metoprolol, propranolol), which can cause difficulty falling asleep, increased awakenings, and vivid dreams. • Avoid <i>caffeine</i> before bedtime; the effect of caffeine can last up to 14 hours and may be more pronounced in elderly because of decreased caffeine clearance with decreased liver function. Note that caffeine is present in many over-the-counter analgesics, cold, and allergy remedies. • Avoid <i>nicotine</i>, a stimulant that affects sleep similar to caffeine (e.g., difficulty falling asleep, decreased sleep duration). • <i>Melatonin</i> has little to no effect, with the possible exception in patients with circadian rhythm disorders; use of controlled release melatonin may help facilitate discontinuation of benzodiazepines. • Some <i>herbals</i> may be effective, but evidence is poor and side effects may be of concern.

Fig. 10.6 On-call management considerations for bedtime treatment of insomnia in geriatric patients [55–57]. *AD* antidepressant, *CYP450* cytochrome P450, *ECG* electrocardiogram, *ECT* electroconvulsive treatment, *SIADH* syndrome of inappropriate antidiuretic hormone, *SNRIs* serotonin norepinephrine reuptake inhibitors, *SSRIs* selective serotonin reuptake inhibitors, *TCAs* tricyclic antidepressants

Table 10.4 Non-pharmacological approaches to insomnia [58]

Brief behavioral treatment approaches	A. Do not go to bed unless you are sleepy
	B. Do not stay in bed unless you are asleep
	C. Reduce your time in bed; if unable to fall asleep in 20 min (subjective sense, not clocked) get up and engage in a quiet activity (e.g., reading) until sleepy before attempting to sleep again; if unable to fall asleep in 20 min, repeat the process
	D. Get up at the same time every day of the week, no matter how much you slept the night before

(continued)

Table 10.4 (continued)

Elements of sleep hygiene	(a) Use a quiet, comfortable room environment
	(b) No visible time cues in room; always use an alarm clock
	(c) Reinforce waking hours with exposure to light early in the day and physical activity
	(d) Avoid stimulating activities 2 h before bedtime (including screen based activity)
	(e) Decrease daytime napping
	(f) Avoid caffeine, alcohol, and nicotine, particularly before bedtime
	(g) Promote relaxation, e.g., prepare for sleep with 30 min of breathing exercises, meditation, soft music
	(h) Avoid catastrophic thoughts, e.g., “I’ll die if I have another night like the last one,” or “If X happens, I won’t sleep”
	(i) Insert positive thoughts
	(j) Address life stressors

Key Points

- Depressive disorders, anxiety disorders, and NCDs are common in the geriatric patients, and their symptoms are likely to comprise the majority of the on-call or crisis chief psychiatric complaints.
- Enhancing clinician’s knowledge and skill in identifying geriatric psychiatric syndromes in those with medical comorbidities that can confuse the psychiatric diagnosis is crucial in the provision of the acute care.
- Common screening tools used specifically in the geriatric patients to identify various psychiatric syndromes are essential to know for the on-call practice.
- Always employ safe principles when implementing on-call pharmacological intervention.
- Physicians need to rigorously follow their local policy on several important matters, such as the use of mechanical restraint, duty to inform in case of patient’s dangerousness, and duty to report patients whom they believe to be unfit to drive due to medical illness.

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