Differential Diagnoses in the Setting of Advanced Age and Multiple Conditions

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7.1 Introduction

Ms. Adler is an 89-year-old female with a past medical history significant for hypertension, diabetes, mild cognitive impairment, and a history of a myocardial infarction 10 years ago who comes to the emergency department with her daughter after having an unwitnessed fall at home. Ms. Adler recalls taking her medications that morning and eating breakfast; she does not know if she lost consciousness and cannot recall if she felt dizzy or nauseous before falling. Her medications include aspirin, metoprolol, hydrochlorothiazide, metformin, and glargine insulin.

Ms. Adler is a patient commonly encountered in various medical settings. She has multiple medical problems, is on many medications, and had a sentinel event, a fall, which could lead to significant morbidity. Was Ms. Adler's fall due to her cognitive impairment, deconditioning, hypoglycemia, orthostatic hypotension, a cardiac arrhythmia, environmental factors like loose rugs on the floor, impaired vision, a combination of the above, or none of the above? When a patient comes to the ambulatory clinic, emergency department, or even seen at home and has a chief complaint, generating a differential diagnosis is the first step to a working diagnosis and plan of care.

This chapter will delve into the formulation of a differential diagnosis and how to approach differential diagnoses in geriatric patients and those with multiple medical conditions. Geriatric and multiple condition patients are similar in that they both have a pathophysiological milieu that is different from a healthy, young adult. Both are likely to be burdened by chronic medical conditions, which are treated with multiple medications and in many cases are likely to have a complex psychosocial situation that complicates diagnosis and management. For this chapter, the approach to differential diagnosis will be similar for these two groups of patients.

7.2 What Is a Differential Diagnosis?

A differential diagnosis begins when a patient presents with any symptom(s) or sign(s). It is a dynamic process based on information received that starts off broad and becomes narrower with more information provided. A diagnosis can help determine the underlying cause of a disease. Determining which diseases may be causing a symptom is a combination of information gathering from history taking, physical examination, laboratory and radiographic data, and obtaining collateral information from family members and caregivers.

Formulating a differential diagnosis is a key skill learned and perfected by medical professionals. Medical errors account for the third leading cause of death in the US [1]. When formulating differential diagnoses, 32% of medical errors were related to clinician assessment errors [2]. Given the increase in medical error and complexities of patients as they live longer, a differential diagnosis and how to approach older adults and multiple condition patients are crucial.

Coming up with a differential diagnosis requires clinical experience and knowledge as well as using intuition and analytical processes [3]. Medical professionals can be blinded from anchoring biases, previous experiences or pattern recognition, and inaccurate information that may result in medical error or misdiagnosis. Understanding how to interpret symptoms and signs as well as medical data including vital signs, laboratory values, and radiographic imaging is equally as important. When it comes to older adults and those with multiple conditions, presentations may be subtle and analytical data may have smaller differences, which will be further explained later in this chapter as well as in other chapters of this book.

7.3 How to Approach a Differential Diagnosis?

There is not one standardized method of teaching differential diagnoses to medical learners. There are many ways to approach a differential diagnosis, often dependent on the health profession and location of training. One approach entails taking a symptom and coming up with possible diagnoses based on organ systems. Common organ system categories include neurology, pulmonary, cardiovascular, gastrointestinal, renal/genitourinary, gynecology, hematology, infectious, endocrinology, or psychiatry. Within disease categories, there are various mnemonics that can be used to help remember possible diagnosis categories.

One strategy is a comprehensive system-based approach that goes after a certain Dr. Tom Prince who works at a Pediatric General Hospital (TOM G PRINCE MD PGH). This approach can be applied in the following way for a patient presenting with a cough.

- **T**rauma/**T**oxin/meds: Silicosis, asbestosis, trauma leading to pneumothorax, ACE inhibitors
- **O**ncologic/**O**phthalmologic: Lung cancer, bronchogenic cancer
- **M**SK/rheumatology/autoimmune: Sarcoidosis, lupus with pleuritis
- **G**astrointestinal: GERD, esophageal spasm, Zenker's diverticulum
- **P**ulmonary: Asthma, COPD, atelectasis, bronchiectasis
- **R**enal: N/A
- **I**nfectious: Pneumonia, upper respiratory infection, bronchitis, sinusitis, allergic rhinitis, TB, influenza
- **N**eurologic: Diaphragmatic spasms
- **C**ardiovascular: Congestive heart failure
- **E**ndocrine: N/A
- **M**etabolic/genetic: N/A
- **D**ermatologic: N/A
- **P**sychiatric: Tic disorder
- **GU**/**G**yn: N/A
- **H**eme: Pulmonary embolism

Table 7.1 Acronyms for differential diagnosis

Acronym	Medicine	I vindicate AIDS	A vitamin CDE
Categories	**M**etabolic/**M**edications **E**ndocrine **D**egenerative **I**nfection/**I**schemia/**I**nfarction **C**ongenital **I**atrogenic/**I**diopathic **N**eoplastic **E**lectrical *(neurological/psychiatric)*	**I**nflammatory **V**ascular **I**nfectious **N**eoplastic **D**egenerative **I**diopathic **C**ongenital **A**utoimmune **T**rauma **E**ndocrine/metabolic **A**llergic **I**atrogenic **D**rugs **S**ocial	**A**cquired **V**ascular **I**nflammatory **T**rauma/**T**oxin **A**utoimmune **M**etabolic/**M**edication **I**nfection **N**eoplastic **C**ongenital **D**egenerative **E**ndocrine/**E**lectrical

Table 7.1 outlines other mnemonics for approaching a differential diagnosis. Besides an organ or systems-based approach, another way to approach a differential diagnosis is to look at illness onset whether it is acute or chronic. For a symptom like cough, the differential may include infections like bronchitis or pneumonia (*acute*) and malignancy (*chronic*). The time frame of a symptom can help narrow a differential diagnosis. Knowledge of the prevalence and population demographics will help with identifying which differentials are *more likely* or *common*. Furthermore, diseases that should *not be missed* such as a heart attack or stroke ought to be part of a differential diagnosis. The organization of differential diagnosis can be by severity of illness or most severe consequences if not identified.

As outlined in *Harrison's Principles of Internal Medicine*, some medical clinicians approach a differential diagnosis with pattern recognition through experience, memorization, and analytic reasoning via data collection and interpretation [4]. One must be cautious of not falling into heuristics, shortcuts, or simplifying decisions. More specifically, an "availability heuristic" can often occur, which is when a decision on a diagnosis is based on a recent patient case. That recent patient case may be an anomaly or may not be appropriate for a different patient. To help prevent this, a differential diagnosis approach should be broad, thoughtful, and systematic.

7.4 What Is Unique About Geriatric Patients?

Mr. Molina is a 78-year-old man who comes in for a routine visit to establish care with a new primary care doctor. He has no self-reported medical problems. He reports being able to do most of his activities of daily living (ADLs) independently. Recently, he has noticed that he gets short of breath when walking up the flights of stairs at the 63rd street subway station. He has even had to stop and rest when carrying a heavy bag. What is causing his shortness of breath?

In the US, a geriatric patient is a person above the age of 65 years. This can be considered an arbitrary designation or a matter of convenience as that is the age Americans become eligible for Medicare. Some experts think an age of 75 years is more likely to represent the impact of chronic conditions and changes with aging on health as well as the need for expert geriatric care. The 85+ age group is the fastest growing cohort in the US today and will require more attention from medical providers [5]. Age is a strong independent risk factor for many medical conditions. Older adults have higher prevalence for certain diseases and syndromes, including cognitive disorders (dementia and mild cognitive impairment), functional disabilities (from a stroke, Parkinson's disease, and arthritis), cardiovascular diseases, and cancer.

Homeostasis is the ability of the body to maintain equilibrium even in the presence of external stimuli. With aging, there are changes to most organs and a reduction in size and function, which diminish the "physiological reserve" needed to maintain homeostasis in times of stress (Fig. 7.1). Hence, it takes a lower dose of an insult, such as an infection or medication, to supersede the physiologic reserve of an older adult and manifest as clinical symptoms. The word "decompensation" is sometimes used to describe the inability of an organ (or an older adult) to compensate for acute overload from any form of stress. This *homeostenosis* or decompensation is thought to be gradual with time but can decline sharply with an acute illness. The age at which homeostenosis sets in or becomes clinically applicable can be different in every older adult; this age depends on their milieu of genetics, medical history, access to healthcare, and other social determinants. This may explain why as a geriatric healthcare provider, "If you have seen one 80-year old, you have seen ONE 80-year old!" This emphasizes the importance of looking beyond the chronological age of patients and assessing all medical problems and medically related complexities in a holistic manner.

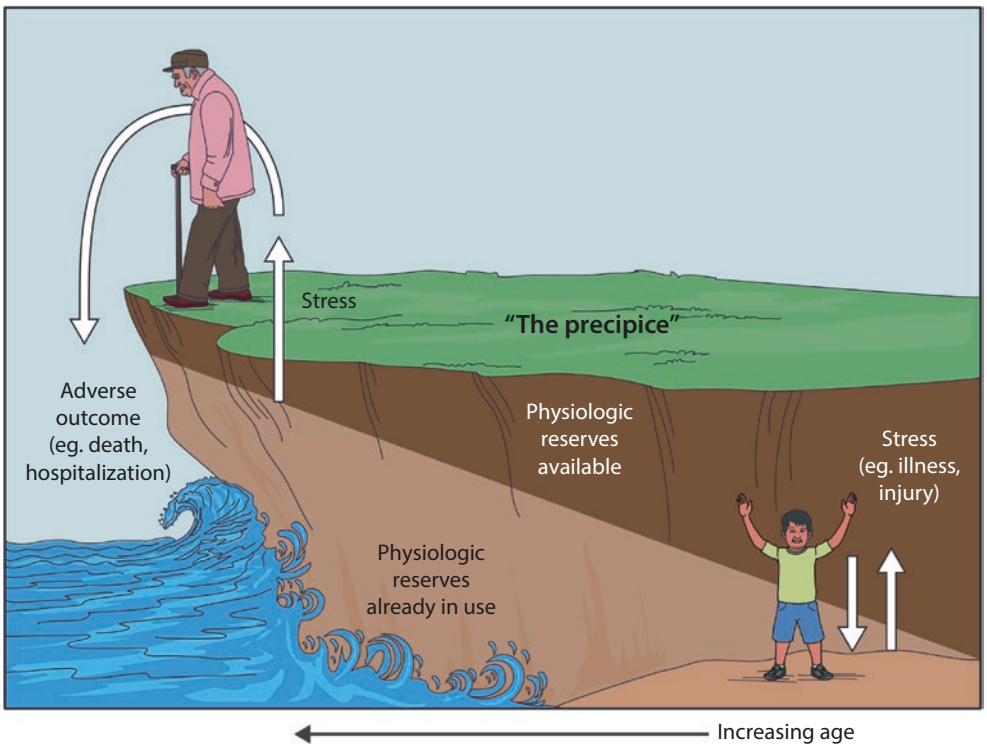

Fig. 7.1 Geriatrics and homeostenosis. (Based on information from Taffet [31])

In the above case of Mr. Molina with his shortness of breath, one could assume it is normal for physical exertional capacity to decline with aging. In the heart, normal aging brings about structural, histologic, molecular, and functional changes that contribute to this decreased physical tolerance. Some of these cardiac changes include: increased thickness of left ventricular wall, calcification of aortic and mitral valves, decrease in number of cardiomyocytes, decline in beta-adrenergic responsiveness, and a reduction in diastolic function and maximal heart rate [6]. Mr. Molina's cardiac changes with aging could cause his shortness of breath; however, other factors must be considered as well.

Age in itself can be considered another predisposing factor that increases vulnerability to poor outcomes when exposed to noxious stimuli (Fig. 7.2). The greater the baseline vulnerability, the lower the intensity of the precipitating insult needed to cause a devastating outcome like morbidity or mortality. Although age is an important predictor, practitioners should not forget to view a younger person with disabilities and/or multiple chronic conditions as being just as or more vulnerable compared to a healthy counterpart.

There are physiologic changes with aging that affect pharmacokinetics (what the body does to the drug) and pharmacodynamics (what the drug does to the body). These changes make drug interactions and adverse drug events (ADE) more likely and should be considered as part of the differential diagnosis in a geriatric patient. An older adult presenting with new onset fatigue could have, for example, anemia or cancer, but should also be suspected of having an amplified effect of a medication, such as metoprolol (a beta-blocker), that could have been initiated recently. In fact, several presentations of geriatric syndromes including dementia, delirium, depression, falls, urinary incontinence, and constipation can result from adverse drug events and inappropriate medication use [7]. The use of multiple or inappropriate medications or polypharmacy, which is common in older adults, can accentuate the likelihood of an ADE being the primary cause of a clinical presentation [8]. Appreciating this is vital because the majority of these ADE are considered preventable.

Single risk factors can lead to multiple disease states. One example of this is smoking and its correlation to cancers, heart disease, pulmonary disease, and vascular disease. It is worth emphasizing that in older adults, multiple etiologies or risk factors can be associated with a certain presentation of illness or disability. This is called a *multifactorial* causation. Not only are conditions with a multifactorial causation more challenging to identify and attribute; they are also more difficult to cure and palliate. Ms. Adler and her injurious fall described at the beginning of this chapter is an example of multifactorial causation. Her fall may be attributed to progressive cataracts, dehydration, inappropriate footwear, even worsening arthritis pain among others, or a combination of all factors. This multifactorial causation can cloud differential diagnoses and make presentations less straightforward.

Geriatric healthcare providers also need to look for what are often called *atypical presentations*. In reality, these presentations are not atypical, but can be common for older people who are ill. These presentations lack the usual signs and symptoms characterizing a particular condition or diagnosis often studied and validated in younger adults. For example, dyspnea and not chest pain is the most common presentation of myocardial infarction in older adults [9]. Fever, the cardinal feature of infection, is absent in 30–50% of frail, older adults, even in the setting of serious infections

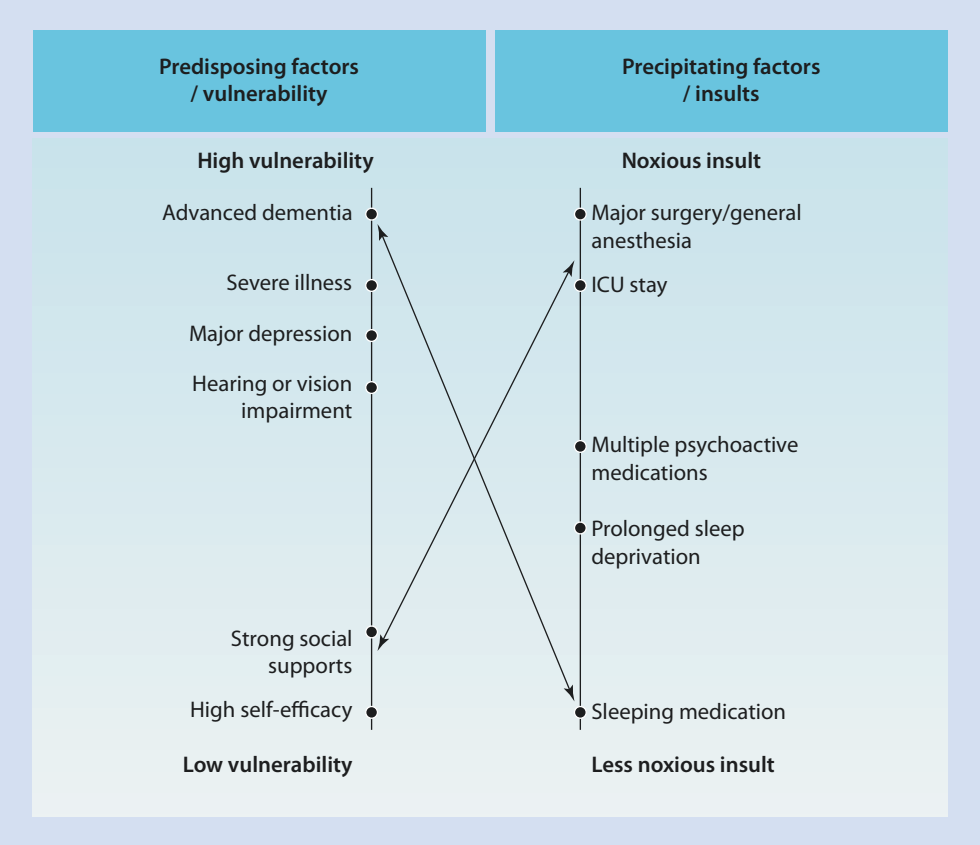

Fig. 7.2 Vulnerability and insults in older adults. (Modified from Halter et al. [32])

like pneumonia or endocarditis [10, 11]. The blunted febrile response in older adults is due to changes in multiple systems including the immune system and thermoregulatory processes. These and other pathophysiologic changes of aging in organ systems also cause other vital signs (blood pressure, pulse, and respiratory rate) to not respond appropriately when stressed [12]. Changes can be subtle. Hence, practitioners in geriatrics may need a heightened awareness and look beyond the typical vital signs or single point measurements (like an elevated white blood cell count) to detect these atypical presentations.

Another important factor to consider is the heightened interrelationship of the biopsychosocial factors with somatic presentation of disease in older adults as compared to younger adults [13]. Incidence of psychological dysfunction like depression and apathy is higher. Moreover, social determinants like absence of spousal or family support, unemployment, limited health literacy, and food insecurity can greatly complicate a presentation in older adults. Figure 7.3 depicts this concept wherein the functional status is influenced by not only the physical manifestation of disease but also by the psychological and socioeconomic factors. Consider, for example, an 84-year-old lady who presents with dizziness, near fainting, and inability to get out of the home in the past week. In addition to the plethora of differential diagnoses for a younger adult, medication nonadherence from not understanding medication instructions, an ADE from concurrent use of multiple neuropsychiatric medications, and progressive cognitive decline leading to reduced ability to cook and eat balanced meals are possible causes that must be included for an older adult. This highlights the importance of a holistic approach to data gathering, i.e., eliciting pertinent functional, psychological, and social history as part of the history of present illness [14].

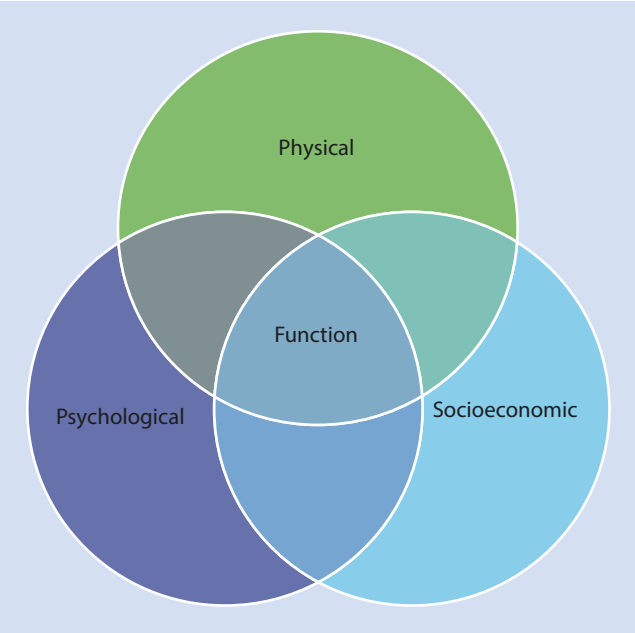

Fig. 7.3 Holistic patient approach. (Modified from Kane et al. [33])

Ironically, some geriatric patients admitted to a hospital are also at risk for being labeled as a *social admission*. This is a patient in whom no acute medical issues are felt to be contributing; rather the patient's social circumstances are felt to be the driving cause. Often in these situations, a thoughtful medical workup is not pursued. It is important to remember that social admissions are heterogeneous and multifactorial (like other geriatric syndromes), with many potential contributing factors. Hence, while caregiver stress or another social determinant may be the causative factor in such a hospital admission, one must not miss a reversible or undiagnosed pathology [15]. Every social admission should be an invitation to investigate the underlying and contributing causes.

7

7.5 What Is Unique About Multiple Condition Patients?

When a patient is referred as having multiple conditions, the term multimorbidity may come to mind. Multimorbidity is when a patient has two or more chronic, degenerative, or terminal illnesses that are difficult to control and when combined together can provide serious side effects [16]. Patients with multimorbidity often have increased healthcare utilization, have decreased functionality, have increased pain and suffering, and often have shorter life expectancies. Identifying the etiology of a symptom and creating a differential diagnosis are challenging in multimorbidity due to the difficulty in correlating symptoms to a particular disease process. There are less linear relationships between disease pathology and symptoms when a patient has many diseases [17]. Like geriatric patients, multiple condition patients have atypical presentations and further complications from infections and interventions.

The American Geriatrics Society (AGS) created an expert panel providing recommendations on how to care for older adults with multimorbidity [18]. These guiding principles highlight the importance of asking patients their primary concerns, considering patient preferences and prognosis, evaluating interactions among treatments and conditions, and weighing benefits and harms when considering treatments. Multiple condition patients are likely to have a greater number of medications and healthcare providers and specialists involved in their care, thereby presenting similar challenges like a complex geriatric patient. A practical approach to multimorbid patients includes prioritization of medical issues, exploring patient's goals and preferences, and coordinating care with the healthcare team members (clinicians, pharmacists, social workers, and mental health providers) [19].

7.6 What Are Challenges in Creating a Differential Diagnosis?

The complexities described so far bring many challenges to coming up with differential diagnoses for geriatric and multiple condition patients. Based on pathophysiology and differing presentation symptoms, geriatric and multiple condition patients require closer attention given atypical presentations. This section will delve into various barriers, its detrimental impact on patients' health, and strategies to mitigate them. In most cases, being aware of these barriers alone will enable the clinician to draw a better set of differentials and provide better care.

Gathering information or history taking in a geriatric or multiple condition patient can be challenging for many reasons. Subtle or profound cognitive, mood, hearing, or visual impairments can impede efficient and accurate data gathering. Knowledge of baseline impairments among patients can help clinicians seek additional information from family, caregivers, and others involved with patient care. Patients should be encouraged to use their vision and hearing aids at each medical visit. A quick cognitive assessment like the clock-drawing or the Mini-Cog test can assess deficits in executive functioning and delayed recall.

It is not unusual for a geriatric healthcare provider to indulge in detective work to get the whole story, which is crucial for formulating an accurate differential diagnosis. When relevant, an extra step with a phone call to the pharmacist, the specialist physician, or the home care agency will clarify a key component of history. Further, in order to differentiate between baseline impairment and superimposed pathological change as the cause of the patient's presentation, the time frame of the presenting complaint is important. An older adult with worsening confusion over a few days should be evaluated for an infection and other causes of delirium, whereas someone with cognitive worsening over months to years likely has some form of progressive dementia.

Low health literacy is ubiquitous, but poorly recognized [20]. This can be particularly problematic in geriatric and multiple condition patients, who are likely to have multiple chronic problems, are prescribed multiple medications, follow with multiple specialists, and hence have to process and utilize a lot of medical information to take care of their health. This can lead to behaviors often inaccurately categorized as nonadherent. To improve the patient-physician interaction, a clinician should use *universal communication precautions* – minimal use of medical jargon, deliver information in small packets, and check for understanding using teach-back methods. *Ask Me 3®* is another strategy that empowers patients to be an advocate for themselves and relay complex information from one provider to another. It consists of three questions that patients should ask their provider at the end of the visit: *What is my main problem? What do I need to do? Why is it important for me to do this?* [21].

An under-evaluated component of history taking that is pertinent in older adults is the social history. Alcohol misuse by older adults is often overlooked, likely either due to physician biases about aging adults or due to attribution of symptoms and signs to other problems common in geriatric patients [22]. Relating back to the beginning of the chapter, think about Ms. Adler who presented with a fall. If

she was not asked about alcohol use, peripheral sensory neuropathy secondary to chronic alcohol would not be part of the differential diagnosis. Many older adults continue to drink the same quantity of alcohol as they did when they were younger, without realizing that their body composition changes with aging, which makes them more likely to experience harmful effects of alcohol ("You do become a cheaper drunk with age."). Compounding that problem is the common occurrence of low or reduced drinking of water among older adults. We suggest the routine use of CAGE screening questions to look for alcohol use disorder in older adults that endorse drinking any amount of alcohol [23].

Also, clinicians may be inclined to avoid asking details of sexual activity in their geriatric patient, often from false assumptions, ageist beliefs, or personal discomfort in asking a sexual history. This is despite the fact that 25–50% of older adults continue to be sexually active [24]. Asking a sexual history and considering a sexually transmitted illness may be appropriate for a differential diagnosis. Approaching this sensitive (and possibly uncomfortable) topic with an open-ended question such as "Tell me about your sex life?" can be helpful before probing for more specific details.

Knowledge of a patient's religious practice and cultural background can influence history taking and the differential diagnosis [25]. For example, fasting rituals during Ramadan and Yom Kippur can lead to hypoglycemia and dehydration-related presentations. Psychiatric diagnoses can be challenging to explore in certain cultures that still stigmatize mental health disorders or consider depression and apathy to be a normal part of aging.

It cannot be stressed enough that a detailed medication history is one of the most crucial components of a geriatric patient history, especially those with multiple conditions and medications. Medication reconciliation, which is a several step process, includes confirming the medication indication, dose, frequency, and patient's compliance as well as understanding potential side effects from the medication [26]. Clinicians faced with challenging lists of medications should seek assistance from team members – pharmacists, nurses, and doctors – to reduce medication discrepancies. In today's electronic world, utilization of online resources and mobile applications to perform a drug interaction check at the bedside is feasible and highly recommended.

When performing the physical examination, clinicians should review the vital signs closely. As mentioned earlier in the chapter, older adults are less likely to mount a febrile response to infection or injury. Conversely, they are more likely to present with a lower temperature than normal; the use of reliable low-reading thermometers can accurately identify hypothermia. While older adults are at risk for strokes and heart attacks from chronic hypertension, they are uniquely predisposed to dangerous presentations from hypotension. If feasible, clinicians should attempt to get orthostatic vital signs for all patients. If not, a standing blood pressure alone can be helpful in identifying those at risk for orthostatic hypotension [27].

7.7 How to Approach Geriatric or Multiple Condition Patients?

At first glance, a differential diagnosis may be similar between young and older adults. However, age and disease complexity are important in determining what is most likely and what needs immediate versus deferred action. When drawing differential diagnoses in older adults and those with multiple conditions, one may be reminded of Hickam's dictum ("Patients can have as many diseases as they damn well please."), which supports the possibility of various disease processes contributing simultaneously to a patient presentation [28]. In contrast, the counter-strategy of Occam's razor (based on a principle of diagnostic parsimony) supports a single unified diagnosis to explain a multitude of symptoms, signs, and laboratory data. This paradigm in which clinical findings lead directly to a unifying diagnosis has been found true in fewer than half of older patients studied [29]. Similar to Hickam's dictum theory, older adults are likely to have multiple diagnoses that explain a clinical presentation. Thinking back about our patients, Ms. Adler who fell and Mr. Molina who had progressive shortness of breath, they both have multiple diagnoses and disease processes that can explain their clinical presentations, aligning with Hickam's dictum theory.

A comprehensive geriatric assessment that includes a detailed psychosocial and functional assessment along with geriatric-specific screenings for hearing, vision, depression, and cognitive impairment is ideal; however, it may not be practical in every clinical setting. Busy clinicians will need a strategy to quickly develop an age-appropriate differential to help provide patient-centered care. Learners and geriatric healthcare providers may want to utilize the following tools to ensure complete data gathering and appropriate hypothesis generation. These tools will also minimize biases that may lead to errors in clinical reasoning and premature closure when generating differential diagnoses.

Geriatric ROS At the conclusion of history taking, the Geriatric Review of Systems (ROS) can be utilized to further assess symptoms and systems, which are not only more common in older adults but also unlikely to be shared with the clinician unless specifically asked. The DEEP IN mnemonic is a helpful way to remember the components of the Geriatric ROS.

- **D** – *D*ementia, *D*epression, *D*riving, *D*rugs
- **E** – *E*yes (vision)
- **E** – *E*ars (hearing)
- **P** – *P*hysical Performance, *P*halls (for falls), *P*sychosocial
- **I** – *I*ncontinence (and constipation)
- **N** – *N*utrition

Positive findings in the Geriatric ROS will help formulate a more relevant differential diagnosis. For example, in the case of Ms. Adler who fell at home, the knowledge of worsening urinary incontinence will allow consideration of a urinary infection or a home hazard. An example of a home hazard may be lack of optimal lighting, causing a fall at home.

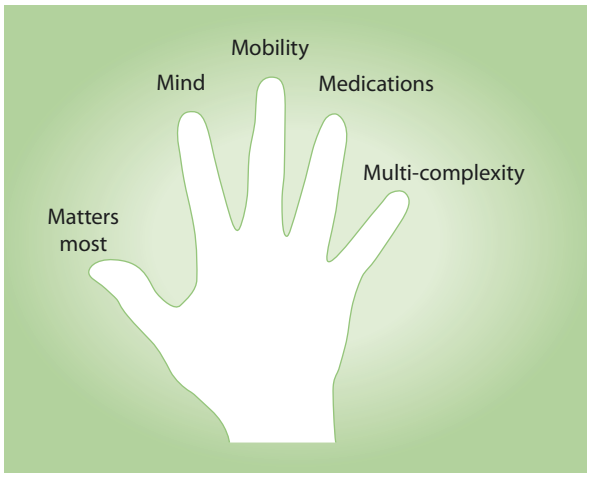

Fig. 7.4 Geriatric 5Ms. (Modified from Frank Molnar and Allen Huang, University of Ottawa Mary Tinetti, Yale University)

Geriatric 5Ms© Once data gathering is completed, the next step is to streamline obtained information and create a prioritized differential diagnosis list. Any of the strategies mentioned in ▶ Sect. 7.3 and Table 7.1 of this chapter can help with this process (acute/chronic, most likely/rare/not-to-be-missed, severity-based, etc.). In the case of older adults and those with multiple conditions, prioritizing a differential diagnosis can be further enhanced by the use of a *geriatric lens* in order to ensure inclusion of syndromes and issues that are more prominent in older adults. The Geriatric 5Ms depicted in Fig. 7.4 by the five fingers of the hand is a simplified communication framework to describe core competencies in Geriatrics in a manner that learners and clinicians can easily understand and remember [30]. It reminds clinicians to be cognizant of the disorders of the **m**ind, **m**obility, and **m**edications, to acknowledge the **m**ulti-complexity of many geriatric patient situations, and above all, to tailor the management based on what **m**atters most to that patient.

For example, by purposefully applying the Geriatric 5Ms to Ms. Adler's case, the following can be added to the differential diagnosis: progression of her mild cognitive impairment to dementia or depression (**m**ind), arthritis or age-related deconditioning (**m**obility), hypoglycemia or orthostatic hypotension from inappropriate use of one of her diabetes or hypertension medications (**m**edications), reduced dietary intake from a recent change in her social support (**m**ulti-complexity), and her preference for wearing socks in the home despite prior counseling to use flexible shoes for walking inside the home (**m**atters most).

In conclusion, providing high-quality patient-centered care begins with the development of an accurate and pertinent differential diagnosis. Tools like the Geriatric ROS and the Geriatric 5Ms offer a holistic and comprehensive approach to the differential diagnosis process for our geriatric and multiple condition patients.

Take-Home Messages

- Geriatric and multiple condition patients are similar in the complexity they present to the clinician. They are likely to have several chronic conditions, take multiple medications, and have a higher likelihood of psychosocial factors affecting their health.
- Being aware that clinical presentations of common conditions in this population can differ significantly from that in younger adults can reduce the risk of missed diagnoses, morbidity, and mortality.
- Reduction in physiologic reserve in most organ systems (homeostenosis) and pharmacokinetic and pharmacodynamic changes with aging predispose older adults to be more vulnerable to poor outcomes from exposure to precipitating stressors, including various medications.
- A detailed social history, with attention to substance use, sexual activity, cultural and religious practices, and caregiver stress can be crucial.
- Obtaining collateral information from family members and caregivers is often necessary and very helpful, particularly for patients with cognitive disorders or altered mental status.
- Geriatric and multiple condition patients are at higher risk for drug interactions and adverse drug events as the cause of the clinical presentation; hence, medication reconciliation should be prioritized.
- Using the Geriatric Review of Systems in the data gathering process and the Geriatric 5Ms (mind, mobility, medications, multi-complexity, matters most) in the differential diagnosis generation process can be a vital part of a systematic approach to older adults and those with multiple conditions.

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