



Limb Loss... Who Is Really to Blame?— The Patient? The Physician? The System?—Part 1

The author explores the causative factors.

BY KENNETH REHM, DPM

Editor's Note: This is the first of a two-part article.

What Is Amiss?

The discipline of limb preservation and salvage has spawned extraordinary innovations in both scientific and clinical applications, offering new hope for those seeking the benefits of the burgeoning state-of-the-art lower extremity amputation prevention platforms.

Wound treatment complexes are flourishing as well as access to them; research studies abound; extensive data is amassed; myriad public relations campaigns stimulate public awareness; training programs are expanding in depth and comprehensiveness, engendering an abundance of expertise and a wealth of information. Our understanding of underlying pathologies is unparalleled. Practical and user-friendly solutions to manage risk are at new heights (Figure 1).

Why, then, are we still losing legs at an unsettling rate, even after all the advances in knowledge, technology, and the presence of thriving university centers of excellence with numerous wound healing facilities waging war against lower extremity amputations? How, then, can we justify the tepidity of the level of success we're enduring? What is amiss?

To retort, let's query the contributory culpability of three debatable



Figure 1: Public relations campaign for Diabetes Awareness Month with Dr. Kenneth Rehm on NBC

After decades of decline, non-traumatic, diabetes related lower extremity amputations in the United States are now on the rise.

culprits in this scenario: the patient, the physician, and the system. Who is really to blame?

To add perspective, consider these facts: Non-traumatic amputations are not going away any time soon. There are around 200,000 non-traumatic lower extremity amputations that occur every year in the United

States, leading to a current amputation prevalence of >2 million people; and these amputations are most commonly associated with vascular disease and diabetes.¹

After decades of decline, non-traumatic, diabetes-related lower extremity amputations in the United

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ed States are now on the rise. After about a 40% decrease in amputation rate among those with diabetes between 2000 and 2009, a significant increase in limb loss with those that have diabetes took place between 2009 to 2015. This disturbing trend is particularly pronounced in young and middle-aged adults; but even those over 65 who have the liberal benefits provided by fee-for-service Medicare are not immune to this revelatory development.^{2,3}

In spite of many readily available state-of-the-art, innovative, evidence-based diagnostic and therapeutic approaches that could be used to minimize risk factors, their implementation, utilization and compliance are disappointingly less than op-

timal, thereby increasing the burden of potential limb loss.

As an example, the literature points out that prompt identification and treatment of peripheral arterial

permissive influences that threaten limbs (Figure 2). This breakdown demonstrates a lack of commitment to take advantage of the health care profession's true limb preservation

If their insurance doesn't cover something, it is rarely offered or even discussed with the patient.

disease, a major permissive factor for limb amputation in persons with diabetes, is vital to preventing limb loss in any population.⁴ However, these interventions, regrettably, are not employed as often as would be needed to mitigate these tragic outcomes. This only serves as an illustration of a critical failure in our system which applies equally to other

capabilities.⁵ People who are losing legs don't necessarily have to! And a lot of these people do not even know they're not getting the best care possible, or that there are other options available to them. If their insurance doesn't cover something, it is rarely offered or even discussed with the patient. There is strong evidence that some patients don't even have a fighting chance.^{6,7,8,9} If there is a treatment available that is better suited for that patient's condition, they may not even be made aware of that, and thus they suffer with sub-optimal care.

The physician may be making self-serving choices that are not necessarily the best ones for the patient.

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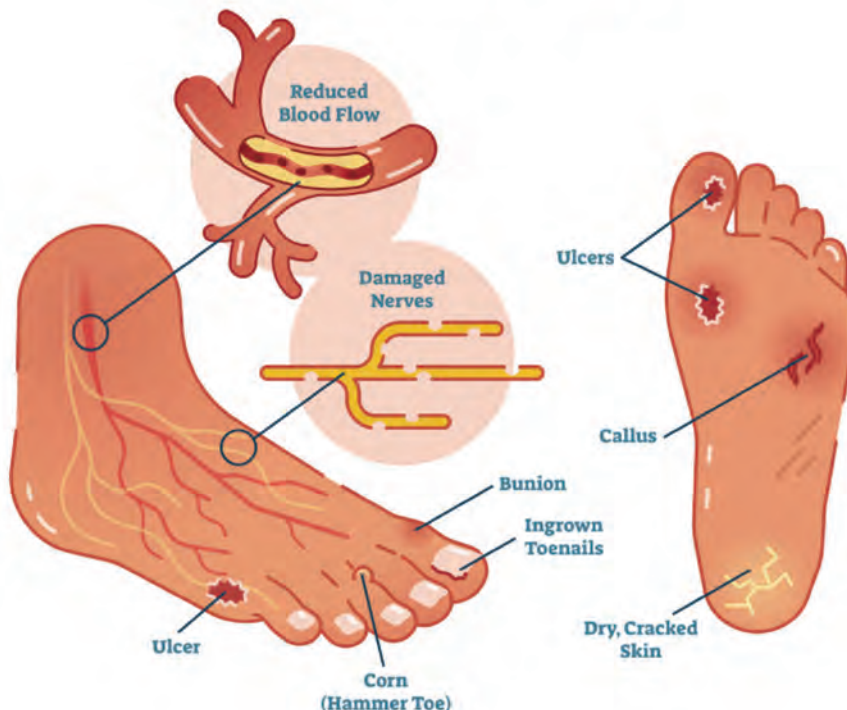


Figure 2: Permissive factors of lower extremity amputation for which interventions may not be employed to offer the patient optimum prevention of amputation opportunities

Physician Contributory Factors⁷

- 1) The doctor may not have a high index of suspicion and recognize that a certain pathology exists and may not make applicable recommendations, or referral to specialists, or call for more advanced testing.
- 2) The physician is making self-serving choices that are not necessarily the best ones for the patient.
- 3) Physicians may be making therapeutic decisions based on outdated standards that may have been in vogue years ago while they were in training.
- 4) The doctor has a limited scope of knowledge and is over his head in his treatment recommendations.
- 5) The physician may be demonstrating implicit bias in his care of the patient.
- 6) The patient may be a victim of insurance-based discrimination.

Race and Ethnicity

As we continue our quest seeking a road to solutions, the pathways we might consider are numerous. As an example, the role that race and ethnicity play in the increased prev-

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alence of limb loss and associated risk factors are often discussed in the literature.

In that regard, it is interesting to note that African-Americans are 4 times more likely to experience diabetes-related amputation than whites.² In California, a Kaiser Health News analysis found that people who were Latino were twice as likely as non-Hispanic whites to undergo amputations related to diabetes.¹⁰

Often, inequalities are the key to the social, cultural, historical, economic and political determinants of health. This includes lack of access to nutritionally beneficial foods as well as the economic barriers to proper health-

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care. Experts assert that these dynamics are at the core of what is purported to be a diabetes epidemic in various ethnic groups.¹¹ Also, some sources speak of implicit bias on the part of the physician, or insurance-based discrimination that targets low-income demographics, which may coincide with race and ethnicity.⁹

To that point, research studies demonstrate that those subject to racial and ethnic disparities, as well as persons living in poverty, may have less access to quality care, and are more subject to many risk factors associated with amputation.¹⁰ While each individual risk factor is increased in these circumstances; as multiple comorbidities merge, the threat of lower extremity amputation is compounded, and additionally becomes markedly enhanced when linked to numerous other weighty challenges that might be subtler in nature and not easily identifiable or measureable. These other factors, overt and covert, should be considered when adjudicating the amount and differences in pathology seen in various demographics. A broad brush approach designating definitive etiologies of lower extremity amputation might lead to an oversimplified understanding, when these elusive influences are not considered.¹⁰

Other Cultural Factors

Very often, there are social and psychologic stressors that come in to play which need to be addressed, but often aren't.¹²

Further, the genetics of race and ethnicity play a significant role in the etiology of diabetic foot disease.¹³

In addition, the importance of geography, culturally inspired lifestyle patterns, backgrounds, traditions, customs, belief systems, and how they interplay with the other determinative factors, cannot be overstated. Some sources site cultural habits and customs as a critical roadblock to the nutritional requirements of glycemic control, therefore fostering vascular disease, neuropathy and a

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higher prevalence of limb loss. Various traditional ingrained practices, including those that involve dietary customs, create unique atmospheres through which the person with diabetes must navigate. After all, in many cultures, the importance of family gatherings and their dietary traditions are central to the core of life's meaning.

One research paper points out substantial cultural influences on dietary habits in four distinct populations, Hispanic, Middle Eastern, Western Pacific and South Asian as a contributing factor in uncontrolled diabetes, a major risk factor for lower extremity amputations.¹⁴

Another study of indigenous populations, including Native Americans, concludes that the causes of the explosion of diabetes and its associated



Figure 3: A typical Southern meal with approximately 1500 calories and one third of those are from fat (from estimates made by private dieticians)

risk factors in indigenous populations are not completely understood, although it is likely that a complex mix of genetics, lifestyle and cultural factors, and psychosocial stressors are pivotal factors.¹⁵

This author's personal experiences at the Diabetic Foot Clinic in Jackson, Mississippi, the Gillis W. Long Hansen's Disease Center at the U.S. Public Health Service Hospital in Carville, Louisiana¹⁶ as well as in rural central Florida will testify to

the frustration tied to managing diabetic foot ulcers in a predominantly African-American population, comprised of individuals strongly tied to cultural dietary customs (Figure 3). The same ethnic bonds were encountered through years of podiatric medical and surgical practice in strongly Hispanic communities around San Diego, Escondido and El Centro, California. After gaining a profound understanding of the depth of the roots planted in robust traditions, one can confidently state that it is extremely difficult to change one's culturally inspired lifestyle habits, unless the person experiences a critical event or undergoes a paradigm shift that arises from life events, a trusted support system or counseling.⁵

Infections and injuries sustained after a fall certainly place that person at a higher risk for amputation of not one but both lower extremities.

Falls and Errors

One would be amiss if this discussion did not include falls as a risk factor for amputations in persons with diabetes (Figure 4). Simply, infections and injuries sustained after a fall certainly place that person at a higher risk for amputation of not one but both lower extremities, and even higher if that person has had a previous ulceration or minor amputation.¹⁷ Moreover, once anyone has had a previous major amputation of one limb, the magnitude of threat of another fall, further injury and amputation on the contralateral limb, is exponentially compounded.¹⁸

Another understated and often overlooked route leading to lower extremity amputation is medical error. There are two primary categories of medical mistakes that account for over 90% of all leg amputations seen in malpractice cases: 1) surgical errors; and 2) missed diagnoses or failure to diagnose.¹⁰

The goal of this paper is to identify those causative factors of this insidious disease; learn about how to control its pathological intermingling and thereby prevent unfortunate outcomes, such as lower extremity am-

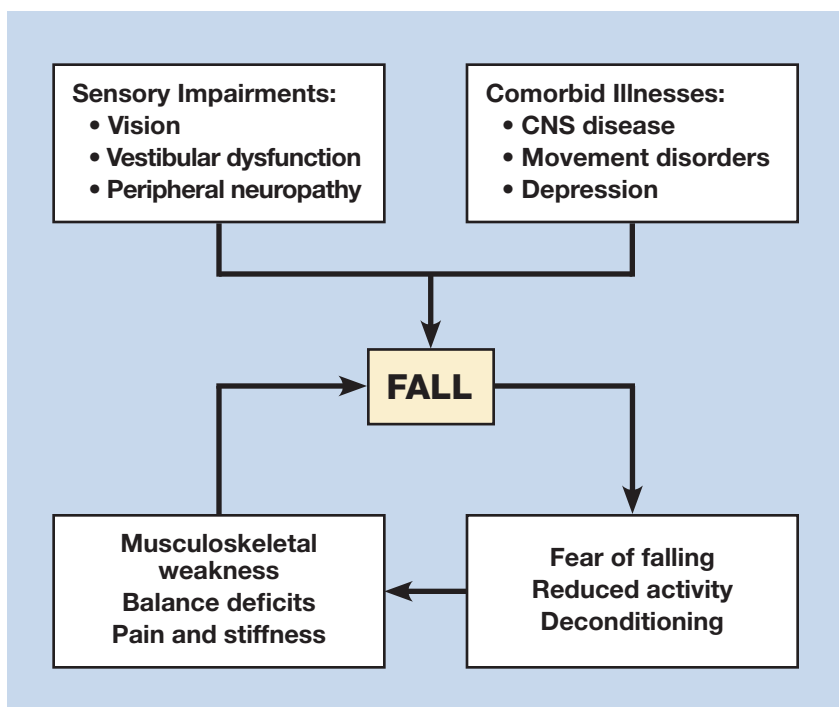


Figure 4: Risk factors for falls inherent in persons with diabetes

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putation. What control, then, do the patient, the doctor and the system have over this devastating enigma, and what are the possible solutions?

The Doctor-Patient Relationship

To answer these questions, it's appropriate to *first evaluate the doctor-patient relationship, the key to whether there is to be a successful clinical outcome*. Establishing this connection between doctor and patient is critical to a therapeutic relationship and is very complex. There are many barriers to surmount for both patient and physician if the rapport established is to be effective

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and can support optimum patient care. More and more hurdles evolve as mounting paperwork, bureaucratic hassles, and reimbursement challenges become part of our clinical experience.¹⁹

This is a call for both patient and doctor to conjure up all their patience, resilience, and ability to reframe and to understand each other's situation.

The Patient's Perspective

The doctor must realize that this is not a pleasant experience for the patient. People usually hate going to doctors. They fear they will be embarrassed, judged, intimidated and confused. They dread the possibility of finding out something that will leave doubt in their minds; and they're afraid they will not be able to ask the appropriate questions.

On top of that, they're frustrated and tired. They waited at the front desk to be checked in. Then they waited in the waiting room. Then they are escorted to the exam room where the nurse/ assistant takes the vital signs and asks the same repetitive, obligatory, cursory and sometimes irrelevant questions. Then the patient waits some more while they're trying to remember the questions they want answered, figuring how to ask them, and wondering if there will be an opportunity to explore all these concerns. Finally, and usually much after their scheduled appointment time, the doctor walks in the room.

The Physician's Perspective

You work in a modern healthcare facility with all the up-to-date equipment and information technology. The medical assistant interviews the patients before you get into the room. The background information

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needed and the questions routinely asked are only peripherally relevant to the patient's chief complaint. The amount of time spent on non-essential and meaningless protocols, in place only to comply with insurance, reimbursement and socially mandated requirements, takes away from the productive time that could otherwise be spent with the patient. There are requirements as to how many people you need to see in an allotted period of time, hence constricting the amount of time to be spent with each. You have

to cram your history and exam to fit the administrative constraints. It feels rushed and incomplete. On top of that, the patient asked for the soonest appointment available but now arrived 30 minutes late. The patient missed his last appointment and now shows up with a limb-threatening new problem that could possibly have been avoided. He noticed it a few days ago but didn't call because his foot did not hurt. As you question the course of events that led up to this, you discover the patient did not wear his diabetic shoes and inserts as instructed, but he chose to wear street shoes instead, for whatever reason. He disclosed that his blood sugars have been extremely high, but he knew why. He has been eating foods he's not supposed to, in spite of being advised on multiple occasions by multiple providers that this type of diet is patently prohibited. He hasn't seen the physician that's treating his diabetes, and is not taking his medications as directed.

Most podiatric physicians would, understandably so, throw up their

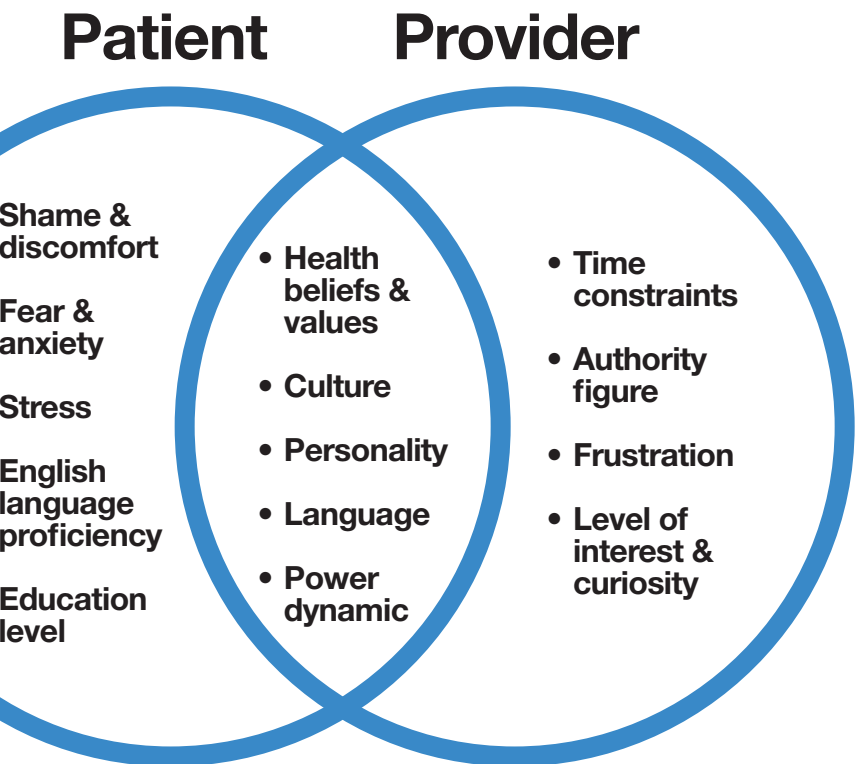


Figure 5: Important underlying considerations of a doctor-patient encounter adapted from a talk to the SLE workshop at the Hospital for Special Surgery by Juliette Kleinman LCSW, ACSW

The patient wants to be listened to, understood, respected, accepted, have confidence, feel safe, appreciated and have clarity as to what the doctor is saying as well as the goals and outcome of the visit.

hands in exasperation. It's like the doctor cares more about their health than the patient does.

But is this non-compliance and non-adherence part of the clinical profile that we as providers of diabetic foot medicine should be willing and able to recognize and treat? Or do we turn a blind eye and blame the patient?

You proceed to order an M.R.I. and write a prescription for medication that you know will work for the patient's complaint; but you are told subsequently that the insurance doesn't cover those requests. Consequently, you are asked to do more paperwork, which is an additional demand on your time, while causing the patient to suffer with an unre-

solved problem even longer than they really should.

After all this stress, you now have to be a skilled clinician who is part psychologist and part coach to establish rapport with the patient. This requires, among other talents, a proficiency in communicating with the patient, a skill set not often emphasized in medical school, but is being touted as one of the most important skills critical to optimum patient care.²⁰

To be effective and the kind of doctor you would want to go to, you need to reframe everything around you, such that every fiber in your being and every facet of your presentation tells the patient that you are

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there for them, and at that moment nothing else matters. The patient wants to be listened to, understood, respected, accepted, have confidence, feel safe, appreciated and have clarity as to what the doctor is saying

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as well as the goals and outcome of the visit. In the words of Teddy Roosevelt: “People don't care how much you know, until they know how much you care...”

Understanding this is a major step toward establishing or maintaining a meaningful relationship with the patient. Show gratitude, humility, genuine empathy, be a good listener and strive for flawless communication. A little humor goes along way, too, in putting the patient at ease and making them feel the doctor is a real person.²¹ (Figure 5)

Out of this comes trust, confidence, and a mutually beneficial therapeutic bond, all essential elements to a successful healing encounter. The patient will now feel comfortable and be willing to self-disclose, allowing for a more meaningful diagnosis and treatment plan. The success of your treatment all depends on your interaction with the patient; and how you communicate what you know, what you think, what you feel and who you are. **PM**

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