MEDNORTHWEST

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NEWSLETTER

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HIGH BLOOD PRESSURE:

The pendulum swings again

A tsunami of blood pressure treatment is going to hit the United States. Might as well buckle up for it. Here's the problem: Over the past few decades, we decided to treat everyone with high blood pressure or *hypertension,* which means exactly the same thing, until we got patients under an office pressure of 140 for the systolic (top) number, the pressure when the heart is contracting, and under 90 for the bottom (diastolic) number when the heart is relaxing.

In theory, there are some problems with this approach. For one, if you look at long term damage from hypertension, you'll find that when the top number goes over 115, mortality starts to creep up. Sure, it is a pretty mild creep, since most of the mortality from high blood pressure occurs when folks are 140 or higher, but it raises a question about our current targets. Other studies don't show much trouble until the pressure is over 150, particularly in folks over 60.

The trouble with these approaches is that they are descriptive, but not prescriptive, that is, they say what epidemiologists find looking at the population, but it is not an experiment, not a randomized clinical trial to answer the question: Where should we target blood pressure?

Think about it. Maybe people with poorly controlled high blood pressure are just the same types of folks who go to lousy doctors and never follow their advice anyway. Maybe these are the same people who drink too much, marry smokers, eat fried pork rinds, and swear at the talking heads on TV. How can you possibly control for all those variables? You can't. That is why a clinical trial is necessary. Perhaps we would find that if you shove patients' blood pressure down to the truly "normal" 120/80 with four different drugs, they start fainting and bonking their heads, or maybe you just kill them off from all the drug toxicities. This is what we found with diabetics where we tried to give them better blood sugar control in the ACCORD trial. Sure, you got lower blood sugar, but mortality went up. It's one thing to lower your blood sugar by eating broccoli and running a marathon, and another to do it by blasting yourself with tons of insulin together with oral anti-diabetic drugs.

What was needed was a bold clinical trial, one where we signed up patients and by the toss of a coin, randomized them to a target blood pressure under 140 systolic (standard treatment) or under 120 (intensive treatment). Sure, the folks in the under 120 crowd would be on more drugs and at higher doses, but would it make any difference in terms of outcome?

The recent study that did

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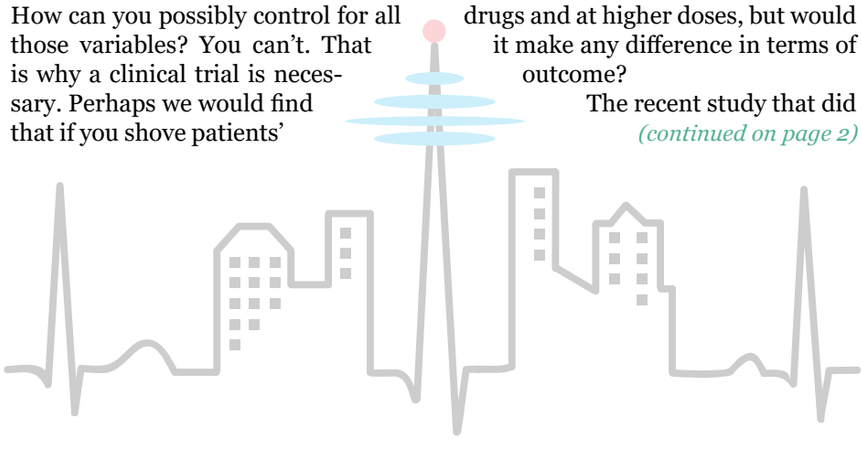

PRIONS

Alzheimer's and Parkinson's diseases are the two most common degenerative brain disorders on the planet, affecting 50 million people worldwide and 6 million Americans. There are likely several million more patients with mild symptoms that fly under the diagnostic radar. What causes these diseases? Could there be a common reason underlying why brains begin to fail as we get old?

Back in the 1990s, we were all going nutso over "mad cow disease," where large numbers of cattle in England were ill with what is properly known as bovine spongiform encephalopathy, although mad cow rolls off the tongue a little more easily. About 10–20 Brits were dying every year, presumably from eating the meat of infected cows. Mad cow disease is extremely rare in humans, but incredibly, it may hold the key to our most common brain disorders. Many brain scientists now think Alzheimer's and Parkinson's could be caused by the same process.

If you think about all known causes of infection, they have something in common, and that something is genetics. Bacteria are creatures that live inside your body and sometimes make you sick. Viruses are strands of DNA or RNA with genes that enter your cells, take them over, and force them to make more viruses. Parasites are tiny animals like giardia or worms that live inside your body and bear offspring. One of the key features of infection is *replication*; the infecting agent is interested in making many copies of itself. Every type of infection we can think of has DNA, or its close cousin RNA. Boil your scalpel for 10 minutes at sea level—no more DNA and your surgical instrument is sterilized.

But imagine another mechanism of infection, completely different from everything we have learned about the biology of infectious diseases since Louis Pasteur's work in 1860. This is the *prion* hypothesis—the word comes from the phrase

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exactly this was called SPRINT, which stands for Systolic Blood Pressure Intervention Trial. The study, at a cost of $157 million, rounded up 9361 patients and followed them for around three years. The folks who got randomized to a blood pressure under 120 actually did much better. Sure, they were more likely to end up in the ER after passing out, and sometimes these drugs were hard on the kidneys, but when it comes to mortality, the death rate over three years was 3.3% in the blood pressure 120 group and 4.5% in the blood pressure 140 group. You might say that a difference of 1.2% is not that great, but remember we don't treat high blood pressure for three years, we treat it for 30 years. If the mortality gap is already 1.2% after just a few years, it's possible that over the long term, this more aggressive approach would be far better. The oversight board that was monitoring SPRINT stopped the study early because the superiority of a target blood pressure of 120 systolic was already obvious.

Of course, this tighter control of blood pressure comes at a cost. In the under 120 group, over three years 4.7% had a serious problem, such as fainting, kidney damage, potassium seriously out of balance, etc. This compares to a rate of 2.5% in the 140 group. So, clearly, the reduced mortality includes some drug side effects, but when one compares overall mortality to the chance of an ER visit for fainting, or a kidney injury that is probably reversible, most of us would elect for lower mortality.

A randomized trial like this with nearly 10,000 patients costing over $150 million provides us with a lot of valuable information, but it also raises a fundamental question: How do we apply the results of this study to the day-to-day practice of medicine?

Patients enrolling in clinical trials tend to be highly motivated, and for SPRINT, they needed to be. Imagine taking four different drugs for high blood pressure and going to the doctor's office every three months for follow up. Getting some of my patients to show up once a year is hard enough. We learned this lesson the hard way—patients volunteering for research are highly motivated and have far more monitoring than those in routine clinical practice. The hard way was a drug called spironolactone given for congestive heart failure. In the clinical trial, spironolactone decreased overall mortality in heart failure patients, but because it can raise potassium (a potentially lethal side effect), patients were monitored carefully with frequent office visits and blood draws. After the study was published, doctors starting prescribing much more spironolactone, but without the highly motivated patients and intensive monitoring that occurred in the research trial. The result, at least in Ontario, Canada, was that we killed off about 73 elderly Canadians without really making much of a positive impact on heart failure. Getting patients to show up is a challenge. Visits for monitoring one condition, such as high blood pressure or heart failure, do not exist in a vacuum. Patients are also going to the dentist, the dermatologist, their primary care doctor, their shrink, and so forth. It can be a litany of doctors' visits crowding out the enjoyment of life.

If the first problem is replicating a research study's high degree of monitoring and rigid protocols in an office setting, the second problem is figuring out which patients should actually be treated. In SPRINT, you needed a blood pressure over 130, a number we currently don't even treat, but you had to be either over 75, or 50–75 with some cardiovascular risk factor (smoking, high cholesterol, history of a stent, etc). The reason SPRINT focused on higher risk patients is not because scientists thought lower risk patients would get no benefit, it's just that lower risk patients would not benefit in the few years the trial was underway before the money ran out. My own view is that patients under 50 and those 50–75 without other cardiovascular risk factors except hypertension also are likely to benefit from a lower target.

BLOOD PRESSURE TARGETS

	Current		Potential
OFFICE BLOOD PRESSURE	140/90	vs	120/80
HOME BLOOD PRESSURE	135/85	vs	115/75

SPRINT excluded diabetics because diabetics had their own blood pressure trial built into the ACCORD diabetes study. Here, 4733 patients with diabetes were randomized to a blood pressure of 120 versus 140. The official results of ACCORD were that lowering blood pressure showed no benefit to diabetic patients, but actually there was a benefit to diabetics as well. Based on ACCORD, we are 80% sure that a systolic blood pressure of 120 is better, but the standard in biomedical research is to insist on a 95% certainty, not 80%. In isolation, the ACCORD trial did not prove to our current standard that a goal of 120 is appropriate in diabetics, but together with this new study, it is likely that the guidelines for diabetics will change. Had the ACCORD study enrolled twice as many patients or gone on for several more years, it might have reached the same conclusion as SPRINT did.

Thanks to the power of SQL server, I can tell you that in our practice, the average blood pressure of patients diagnosed and treated for hypertension is 132/78. This number is consistent with the current national guidelines. Of the 112 people I follow with hypertension,

In our practice, the average blood pressure of patients who are diagnosed and treated for hypertension is 132/78.

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Getting an acurate blood pressure...

A huge challenge in taking care of patients with hypertension is measuring blood pressure accurately. All known methods of blood pressure determination have pitfalls. You might think the best way to measure blood pressure is in the doctor's office with a mercury blood pressure device like we have. However, studies show that many patients have a spike in blood pressure when coming to see the physician. The gold standard, called *ambulatory blood pressure monitoring*, is to strap a blood pressure cuff to someone's arm, hook them up to an automated device and have them go about their business for an entire day while the machine takes a blood pressure every 15–30 minutes. The average of those 80 blood pressures is your "ambulatory blood pressure." This number has a much better chance of predicting future damage from high blood pressure than the numbers obtained in the office. An even better predictor is just to measure blood pressure while in bed asleep at night, but unfortunately, we don't have a lot of experience using this number to make clinical decisions for patients.

This research underscores an important point that patients with high blood pressure have a difficult time accepting. It is not the sudden spikes in blood pressure when we are anxious, ill, or exercising that causes damage. Instead, it is the mild elevation above a low baseline that occurs when sleeping or just sitting there watching "Real Housewives" that creates trouble. If a patient tells me he is worried about a home blood pressure of 150/100 after feeling flushed and dizzy, I want to say, "Take it while you're asleep and then we'll decide if you have a problem or not." That advice is completely accurate but might not go over too well.

A focus group of my own patients (i.e. the three people I asked) concluded that most folks would rather not have their blood pressure taken all day and night, nor to have that exercise repeated every time we adjust a medication. There may be a role for ambulatory blood pressure monitoring, but doing it routinely for all patients with high blood pressure is too intrusive for routine use in clinical practice.

Home blood pressure devices can be helpful, but their accuracy is sometimes a problem. Units typically cost around $50, but they may be off by 5–10 points. Research also shows that patients sometimes omit the elevated home blood pressures, omitting the elevated values and only reporting the low ones. Other times, patients don't use these devices correctly. A "clinic grade" automated blood pressure device is a few hundred dollars and may be more accurate, but to actually know a person's blood pressure, you need to put a catheter in their arterial system, which is something we do for very sick patients in the intensive care unit, but not for everyone else.

In our practice, we've been using a combination of mercury sphygmomanometers (a 100 point Scrabble word for blood pressure thingy), together with patients self-monitoring at home. However, because of the coming changes in national guidelines for blood pressure management, we've purchased a fairly sophisticated office blood pressure measuring device which gives results in the office after five minutes that come fairly close to matching 18 hours of awake home blood pressure monitoring.

The device, called BpTRU, is manufactured in Canada and has been proven to be accurate in several clinical trials, giving us a pressure within 5 points of a full day of home monitoring for most patients, but at far less inconvenience. It works just like a home blood pressure machine, except that it takes the blood pressure six times, once each minute, and reports the average of the last five measurements. The electronic innards are also more accurate than the home units, since the device is 25 times as expensive. Research shows that patients must be alone in a room, sitting in a chair with no doctor or nurse present, and no talking or texting on your cell phone! Because the number matches home blood pressure, not office pressure, we like to see it under 135/85 if you're following current guidelines and under 115/80 by the latest research.

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only around 20% have blood pressures consistently under 120. What should everyone else do?

Here is my advice to patients. If your mindset is to do as little as possible in terms of health care consistent with basic sanity, then I would recommend you keep your home pressure under 135/85, which corresponds to an office pressure under 140/90. However, if you are more proactive, then it makes sense to target a blood pressure under 120, regardless of your cardiovascular risk profile. Buy a home blood pressure device if you don't already have one. Get several readings on different days. Bring the device to the office and let us check it against ours. Be willing to come in a bit more often for blood pressure treatment. As my folks with hypertension come in for their annual exams during 2016, we'll be talking more about blood pressure and setting goals based on a joint discussion of the pros and cons of treating to a target systolic blood pressure of 120. Since home pressures run about 5 points lower than office pressures, this corresponds to a home pressure of 115 systolic. Patients have to weigh the downsides in terms of additional medication and monitoring, and the increase in complications against a potential overall mortality benefit.

Buy a home blood pressure device if you don't already have one. Get several readings on different days, and bring the device to the office so we can check it against ours.

SPRINT was an important and well conducted study. It looked at a common problem and brought scientific rigor to the issue. The medications involved in SPRINT are all cheap generics, and there is understandably no drug company interest in funding this type of research. It's our tax dollars at work, but at work in a way that can directly benefit millions of us. Look for headlines in the lay press some time in the next year or two on new national guidelines for high blood pressure.

PRIONS

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"proteinaceous infectious particle." Prions are proteins with no genes that can cause infection in an almost mechanical way. Let's dive into the chemistry and figure out how on Earth this is possible.

The human body is 17% protein, occupying two separate roles. The first is structural: bone, muscle, tendons, and skin, all are largely protein. The other is functional: proteins run and regulate the body's chemical processes. Molecules like insulin and immunoglobulins are proteins.

Proteins are manufactured as long chains of amino acids. We have 20 of them, like tryptophan and glycine, each with a different geometry and role. Health food stores will sell you massive bottles of amino acids, but we get plenty of them from food ,and we make the rest ourselves. Think of them as beads on a string or cars that make up a train. *Amino* means a nitrogen with two hydrogen atoms, and *acid* doesn't mean it burns a hole in your jeans, it just means the molecule tends to give up a hydrogen in chemical reactions.

But how can a simple chain of molecules like that replicate itself and cause infection? Well, when proteins are made, they don't emerge as a long, thin string. Instead, they coil, like a Slinky. When a protein is coiled in this fashion, we call it an *alpha helix*. Scientists like to use Greek names for things because most of them were excluded from fraternities and sororities in college. In an alpha helix, every amino acid is bonded through a hydrogen to the guy 4 rungs up the chain. However, if you've ever given a kid a Slinky, you know that it can end up with a different shape than what it looks like coming from the toy store. In the case of proteins, they can also form pleated sheets, even though pleats are no longer in fashion. We call this arrangement *beta pleated sheets*, or just *beta sheets*. Most human proteins are in the alpha helix configuration, but silk is a beta pleated sheet, and perhaps it is no accident that alcohol dehydrogenase, the enzyme which allows us to metabolize alcohol, is a beta, just like Belushi in *Animal House*. Many proteins are mixed, with some sections in alpha helix form and others in beta pleated sheets. One problem when the beta sheet configuration predominates is that some proteins in this configuration clump together, either as long strings or round blobs. Clumped up proteins like this generally don't function normally, and sometimes they can be harmful.

In the human brain, there is a protein called amyloid precursor protein. This is a funny way to name a protein because it is somewhat like calling a kid a pre-criminal. Amyloid deposited in clumps in the body is very bad. Calling a little protein molecule amyloid precursor means we suspect it will one day clump up and cause us havoc. Amyloid precursor protein can exist in an alpha helix, of course, but it also exists in small quantities in the brain as a beta sheet. No one knows what the beta sheet version is doing, but it is probably important since we make it naturally. However, the beta sheet geometry is prone to clumping and aggregating. In Alzheimer's, the *senile plaques* that we see in the brain are chock full of amyloid precursor protein in big clumps of beta pleated sheets. The theory goes that these clumps are toxic to the brain and cause Alzheimer's. Nowadays, it is politically incorrect to use the word *senile*, which to doctors just means *aging*, but to laypeople means *forgetful*. We've had to rename *senile lentigos* (age spots) as *solar lentigos*, and *senile plaques* as *neuritic plaques*. I'll stick with *senile plaques* for this article since everyone will

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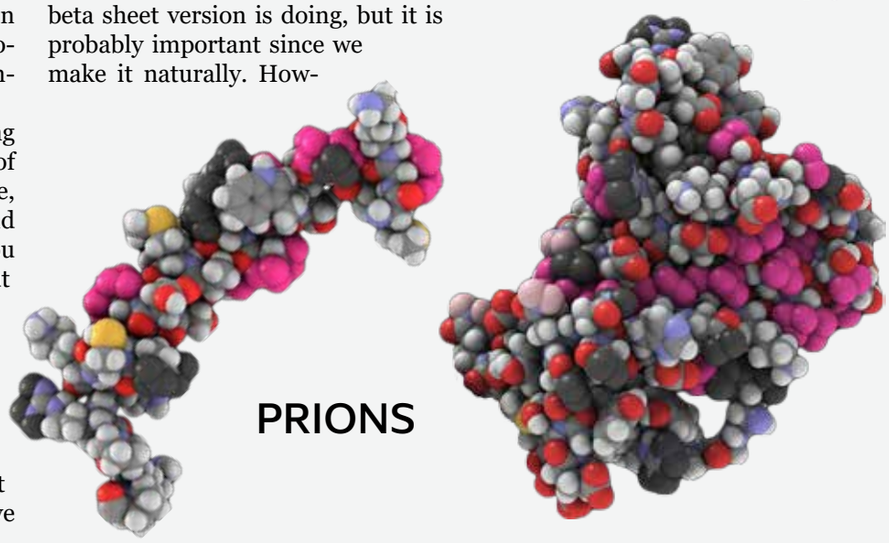
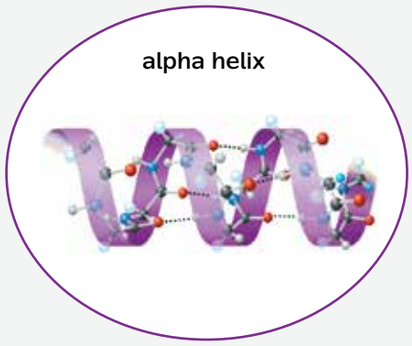


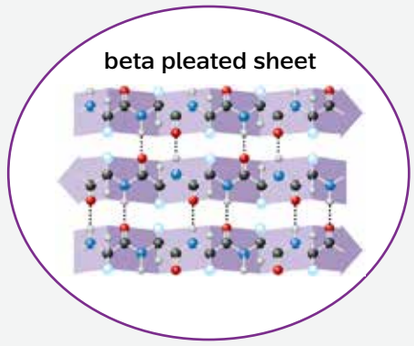
Folding@Home

Actually, the folding of proteins into an alpha helix is just one phase of the entire folding process. Think about taking scissors and dragging them across a ribbon on a gift package, the ribbon coils up of course, but it also bunches up after it twists. Don't confuse this folding and bunching of a single protein, which is necessary for the protein to do its job, with the aggregation of multiple proteins in Alzheimer's, a totally different process. If the primary structure of a protein is its sequence of amino acids, the secondary structure is the alpha helix or beta pleated sheet, and the tertiary structure is the bending and folding after the protein is coiled or in sheet form. If you're trying to impress people at a party, remember that everyone knows what primary and secondary mean, but few people use the word tertiary and almost no one says quaternary. (Next are quinary and senary, but by this time you're seriously risking getting beat up). Trying to guess, just based on the sequence of amino acids, how a protein will actually end up folding in 3 dimensions is a big problem for scientists. Proteins fold up in just a few milliseconds, but it takes huge amounts of computer time to try to predict how a protein will fold.

At Stanford, researchers created a software program which has been downloaded by over 100,000 volunteers and placed on their personal computers. The project, Folding@Home, has created a massive distributed computer, on par with the fastest supercomputers in the world. When you're not using your computer, the program runs simulations of protein folding and sends the results back to Stanford. This does not, however, increase your chances of getting in to Stanford. It turns out that graphics cards, such as the high end types that gamers install in their machines, have even more computing power than the main computer chip. The Folding@Home program uses the computing power in the graphics card as well as the main chip to perform calculations. For a while, the software was even running on people's Sony Playstation 3. Over 100 research papers have come out of Folding@Home, many looking at issues relating to protein folding in Alzheimer's and Parkinson's diseases.

PRIONS





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know what I'm talking about.

And here's the infectious part: Scientists believe that sometimes when a protein in beta sheet configuration comes into contact with the same protein in alpha helix configuration, it will bind to the alpha helix and bend it into the beta sheet. That newly created beta sheet will, in turn, bind to other identical proteins in alpha helix configuration and bend them into a beta sheet. Over time, this causes the massive transformation of protein from coiled alpha form into beta sheets that bind and clump together. Just as one zombie infects several people who transform into zombies who, in turn, infect other people and make them zombies, the presence of just a few beta pleated sheets of a protein that exhibits this behavior can transform large quantities of alpha helical protein over time into beta sheets. This is how a non-living protein can produce an infection.

Of course, most proteins, whether in alpha helix or beta sheet form, can't transform other proteins. They are just there doing whatever protein job they have, such as making muscle or regulating testosterone, but rarely, a bad actor comes along which induces this transformation.

If you inject some of the misfolded protein from a mad cow into a happy cow, this misfolding and clumping into beta sheets will continue in that new cow, slowly spreading throughout the brain.

In Parkinson's disease, a different protein, called alpha-synuclein (Suh-NEW-Cle-In) clumps together. The *alpha* here does not refer to how it folds, but just that un-creative scientists named two similar versions of synuclein alpha and beta. Alpha-synuclein exists as both alpha helix and beta sheets. In the beta pleated sheet version, it clumps up into what we see under the microscope as Lewy bodies. These are commonly found in the brains of patients with Parkinson's disease.

Perhaps the most common neurodegenerative diseases, such as Alzheimer's and Parkinson's, are caused by prions with the gradual spread of misfolded proteins throughout the brain.

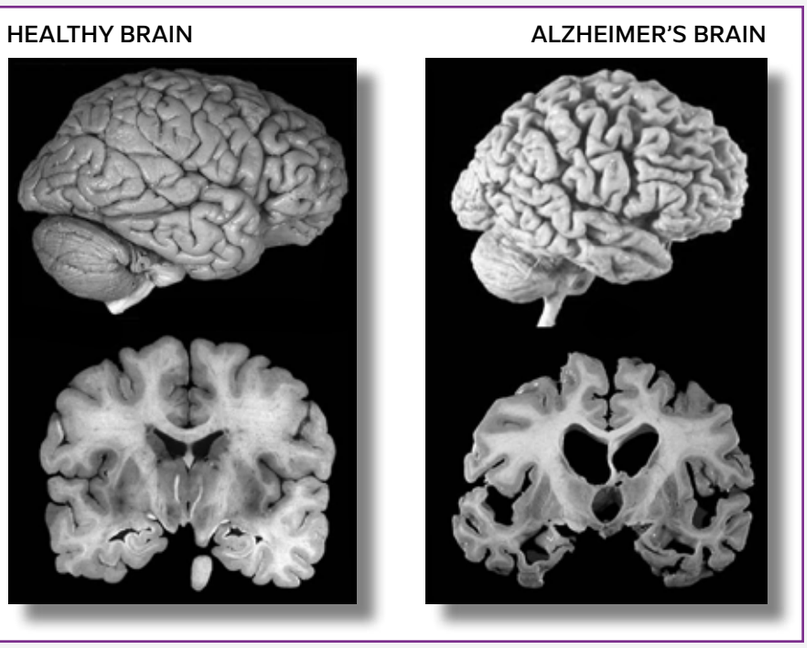
It may be that most of the common chronic neurodegenerative diseases, such as Alzheimer's and Parkinson's, are all prion type illnesses with the gradual spread of misfolded proteins throughout the brain. One difference is that Alzheimer's and Parkinson's are not contagious, so the comparison to mad cow is not perfect. However, the notion that protein misfolding and aggregation, spreading zombie-like throughout the brain, is actually the key problem has led to some interesting clinical trials for these diseases.

Because Alzheimer's is 10 times more common than Parkinson's, more clinical trials have focused on Alzheimer's disease, but the underlying principle of treatment would possibly apply to both illnesses. One trial gave a vaccine to patients to cause their immune system to attack the senile plaques in Alzheimer's. The plaque count went down, but patients' neurologic status did not improve, and some patients developed inflammation in the brain. Other vaccine trials are underway.

Another approach is to just make antibodies to senile plaques in the lab and inject them into people. Several clinical trials are ongoing with that approach. Although the drugs do decrease the burden of plaques in the brain, this improvement does not necessarily correspond to any improvement in memory. It might be that by the time there are large numbers of plaques, significant and irreversible brain damage has already occurred. One strategy is to treat patients at the earliest stages and then perhaps we'd find a benefit.

Unfortunately, none of the antibodies currently being tested have shown dramatic effects, and most show no improvement at all. My worry is that one of the drug companies will get FDA approval for an incredibly expensive, but weakly effective treatment for Alzheimer's. This will result in a huge national cost but won't get us closer to a cure.

The notion of a unifying process accounting for Alzheimer's and Parkinson's diseases is very appealing. All of us are eager to see effective drugs in the research pipeline, but a better understanding of the basic science is going to be required. Figuring out how and why proteins fold into a particular shape and how misfolded proteins damage the brain requires research from PhD scientists working at the most basic levels of chemistry and biology. Fortunately, the prion hypothesis is a good way to interest the next generation of researchers.

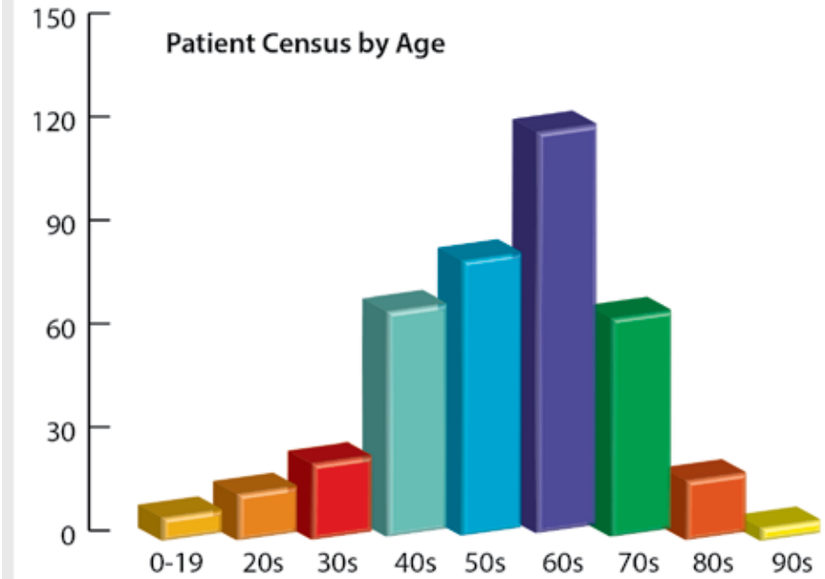


PRACTICE STATISTICS for the intellectually curious

After nearly 14 years in operation, we've accumulated some statistics that may be of interest. Health statistics are one, but obviously imperfect, measure of health care quality. In sharing some of our data, I would point out that physicians practicing in large healthcare systems often find their job performance, and sometimes their paycheck, depends on meeting certain "quality metrics," such as how many diabetics have blood sugar well controlled or how many patients received a colonoscopy. Remember that every patient is different. You want your physician advocating for you, not for the bean counters. Still, to completely ignore health statistics and outcome data is probably unwise.

We currently have 404 patients. A good measure of quality in a concierge practice is whether or not people stick around. It is much easier to vote with your feet when you're cared for under the concierge model. The turnover in large primary care practices is considerable. Some estimates put it at 30% per year. Patient turnover is only part of the problem. Nationwide, physician turnover is about 7% per year, which means that in any given year, there are a lot of patients and physicians breaking off established relationships. This is not good health care.

In contrast, our practice is quite stable. About 95% of our patients have been here five years or longer, and more than half have been here 8–14 years. In any given year, <1% of the practice leaves because they are dissatisfied with the care provided.



In addition to practice stability, we also have a broad distribution of ages and geography. Patients range from teenagers to folks in their 90s, with 60% from Seattle and the remaining 40% from elsewhere in the Puget Sound, or scattered in places like New York or California.

Large healthcare organizations use certain metrics as a measure of quality. For example, one metric is the number of patients over age 60 who have had a shingles vaccine. Nationwide, the rate is 20%, but in our practice the rate is 94%. You never want to be at 100% because there will always be patients for whom a vaccine is contraindicated or who simply elect not to have an immunization after a discussion of the pros and cons.

Another measure is the rate of colon cancer screening. Nationwide, only about 50% of patients over 50 have been screened for colon cancer in the past 10 years, but that rate is 89% in our practice. If you look at our patients who have not been screened, 100% of them have been referred for colonoscopy and either did not follow through, or the study has been scheduled but not completed. Colonoscopy is not perfect, but it does reduce your risk of dying from colon cancer by around 50%.

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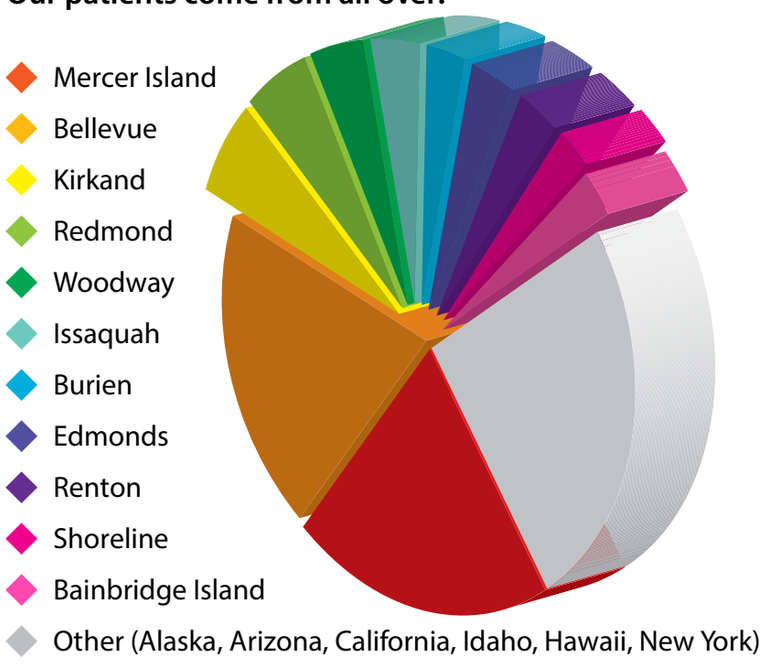
Our patients come from all over:



Just over half our patients live in Seattle, but we have patients from all over the Puget Sound region and elsewhere in the United States.

PRACTICE STATISTICS

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Diabetes is an area where quality metrics are often applied. In Washington state, 7.4% of the population has adult onset (type II) diabetes, but the rate in our practice is 5.4%. This shows that we tend to attract a more health conscious cohort, and perhaps we are more successful in managing pre-diabetic patients. In fact, of our 5.4% diabetics, half of those no longer meet the official criteria for diabetes based on dietary and exercise changes they've made. Whether to still classify them as diabetic or not is unknown. Of our diabetics, 80% are controlled in terms of their blood sugar to within the national guidelines, as compared to 56% nationwide. Again, you never want to be at 100% because not all patients should be controlled to this level, but it again shows that our patients are either taking better care of themselves, or we are taking better care of them, or both.

We have 404 patients in the practice, and 95% of them have been here for five years or longer.

On virtually any quality metric that we measure, blood pressure control, statin use after a heart attack, pneumonia vaccination, eye exams for diabetics, smoking cessation advice, our patients do much better than the average patient nationwide. Statistics can be helpful, but ultimately the individual being treated is a single patient, not a statistic. The best scenario is when your physician is not pressured to put you in a particular outcome box, but instead can discuss the pros and cons of testing and treatment with you.

Letter From The Inside

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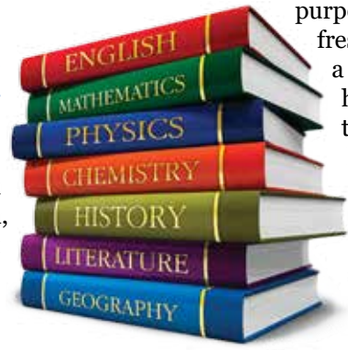
cies just make for a lot of lies and hurt feelings.

Student #5: Homesick Blues

The worst part of assisting a homesick resident is that calling home is usually not helpful. If it is an emergency or a dire situation, most schools can help their students return home for a while. However, if your child just misses home, sometimes less communication is better. It can help them find their own groove at school. Parents may wish to act as a safety net but end up holding their students back from trying new things. Skyping frequently with parents and high school friends can also stop students from meeting the new people around them. I would not encourage undue fear over homesickness. Check with a formerly homesick freshman on week eight of summer break. I can assure you, most are more than ready to come back to school.

Sex, Drugs, Alcohol, and Gambling

Contrary to what you see on TV, at a school like Carleton, there is far less sex and other vices than you might imagine. The kinds of students who end up here are very driven and most their time is spent either studying, doing activities, or hanging out with friends.



In Closing

The best part of being an RA is that this short list of student architypes does not even start to describe my duties. My responsibilities go outside of advising residents and unlocking rooms when students forget their keys. RAs write reports and plan programs, they work in teams with co-RAs and groups to make sure the world outside of academics runs smoothly. For most schools, RAs perform rounds on Friday and Saturday nights, helping out with anything that may come up, or throw up, during the weekend. Fortunately, my residents are not my children. In fact, it is often the RA code of honor to never be seen as the hall mom or dorm dad. We have a primary purpose: to help incoming freshmen. An RA is simply a student-peer, one who has spent more time at this school and knows how to help smooth the transition, deal with the common crises, and balance the fun and work of college.

FLU SHOT UPDATE

We have several types of flu vaccine here in the office, including the FluMist which is a nasal spray that some kids prefer, the standard quadravalent (four strain) vaccine, and a special high-dose flu shot for patients 65 and older. I recommend that all patients receive a flu vaccine this year. If you have kids who are not patients but want the FluMist, we're happy to take care of them—just call the office and arrange to come by. Many local pharmacies also carry flu vaccine, and it is perfectly fine to have a flu shot at your pharmacy if you prefer.

Letter From The Inside

Special Guest Author Ellie Frank

This September, thousands of kids departed home for the first time and journeyed into college. Most freshmen live in dorms, ranging from those newly constructed from fairly-traded, recycled, carbon-neutral automobile tires to 400-year-old ivy coated brick buildings with mattresses from the Woodrow Wilson administration. There is an unprecedented level of freedom. Want to eat pizza at every meal? Go ahead! Want to sleep from 9 PM to midnight and do homework until 3 AM? No one is stopping you! Interested in never doing your laundry? College is the place for that!

However, parents and grandparents can be assured that there is actually a first line of defense for a young student on the maiden voyage into the semi-real world. Someone will be actively looking after your son or daughter to help make decisions, handle crises, and plan events. That someone is me. I am a Resident Assistant, and this is my story.

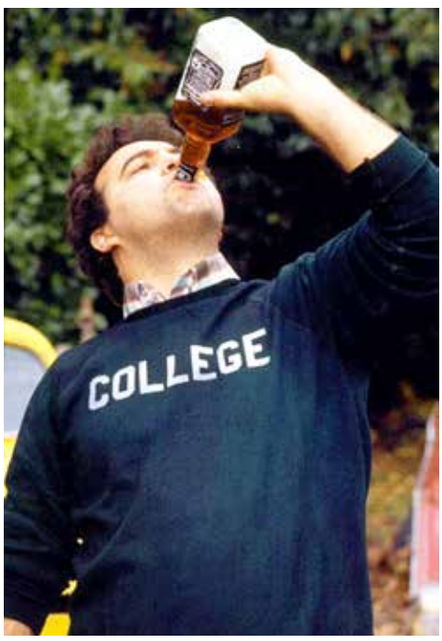
I attend Carleton College in Minnesota. Carleton tends to draw high achieving but extremely nice students to the school. I've had an excellent experience here, and the chance to help others make college great was an opportunity I could not miss. Being an RA is about more than free housing; serving in this role is one of my favorite parts of school. Becoming an RA involved a rigorous application process and one month of training. Now, after a term on the front lines, I present this letter from the inside.

Student #1: Kid Genius Meets Approximately 400 Other Kid Geniuses

This student has spent their whole life at the 99th percentile. Coming to a school full of one percenters is a big culture shock. Classmates are not impressed by his state ranking in the robotics league, as they also did that, and better. The kid who did Teen Jeopardy is not as impressive as the guy down the hall who gave a TED talk at age 15. It puts a lot of stress on a student to go from being the smartest in his class to average, and unlike Lake Woebegone, not everyone here is above average. I guide students toward making friends who care about them as a person, not their list of extra-curricular activities. Try to forget your ACT, SAT, and AP scores. The goal is for students to redefine themselves as something wholly apart from, and better than, what appears on a college application.

Student #2: Sleep? Who me?

Freshmen year, students often forget how hard they work each day. Classes may only meet two or three times each week, but there is a lot of studying outside of the classroom. Huge academic demands with five hours of sleep per night leads to disaster. Funny enough, one of the real reasons for the lack of sleep is not studying, but socializing. Students do not want to miss any humorous YouTube video, late night Snapchat, or dorm room conversation that may strengthen their group of friends. Generally, studying stops around 11 PM, but afterwards, hanging out becomes the principal activity. I tell freshmen they need to sacrifice some socialization for sleep.



Student #3: Puppet Under Pressure

This student is three weeks into her first term and her parents have mapped out the rest of her life. Sometimes, there is a cog in the machine, such as when a "future Nobel laureate" is struggling to pass Econ 100. In any setting, students are under pressure, but when they get to college, a new stress becomes the financial impact of their education. You can map out the cost of every class, every meeting with your professor, every minute in the library, and that kind of knowledge is stressful. Why take a class on geology if you don't think you are going to be a geologist? Should I really be watching this episode of *Empire* if my parents are paying for me to be here? How can I make the most of my four years? Students at an expensive, private liberal arts college question this all the time. They feel in debt to their parents for their education, which manifests in following expectations set by the people paying the bills, even if they are at odds with a student's aspirations.

If Mom encouraged lots of math and science, you will get a math and science freshman. If Dad was all about business, a student will angle in that direction. As an RA, I encourage students to go outside their comfort zone, and I try to divert some of their parents' expectations. When residents are only taking science classes, I encourage them to take an English class. When residents stay holed up in their room all weekend studying, I try to find them activities that will get them participating in college life. Even if we're just hanging out, scrolling through Facebook, looking for substance and gluten free activities on campus, I enjoy showing residents the world outside of their usual activities. With more social students, we look for tutoring hours, we write emails to professors to arrange meetings, and we try to keep them on track academically. I always tell my residents that professors are people, and they want to meet you! (Even if you are doing exactly average in their class).

Student #4: The Social-ist

Some students love to socialize. Maybe they are on a sports team, or in a fraternity or sorority, getting cheap booze every Friday and Saturday night (as well as Monday, Tuesday, and Wednesday). It can be hard to tell if your child is of this variety. Facebook spying or phone calls and text messages from home do not really help. The best way to make sure your student is practicing a good work/life balance is to have an honest conversation about what they do at college. But most importantly, as a parent it is vital to have realistic expectations. Strict rules only lead to rebellion. Zero tolerance poli-

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