ADDICTION MEDICINE - CURRENT CONCEPTS

John Franklin, MD

DR. GRAHAM: Our first speaker, John Franklin, is the liaison consultation service of the Northwestern Memorial Hospital. He's a psychiatrist who has specialized in addiction and chemical dependency. In talking with him briefly after he arrived, you'll notice near the bottom it denotes his school at the University of Michigan which I think has provided us this season already with two of the best football games of the year.

One, he was very pleased with the outcome but he was a bit disappointed this last weekend. I did mumble that I'm a Big Eight fan. He came to Northwestern via faculty positions at New Jersey Medical School and Cornell University and without further introduction, I'll turn it over to John and I know he'll have lots to tell us.

(Applause.)

DR. FRANKLIN: Thanks for inviting me to come here and speak with you. I also spent a few moments before beginning the talk getting to know a little bit about your organization and I'm impressed that there are a lot of important people in this room and I hope that I'm able to impart some information that helps you do your work.

The topics are going to be concerning alcohol, methadone, the nicotine patch, cocaine treatment strategies and the public use of psychotherapy. I probably don't have to bore you a lot with the statistics and epidemiology. I think you're all aware that drug and alcohol problems are very prevalent in our society.

In the 1980s there was a very important study of epidemiologic catchment study, the ECA study, which tried to get a good sense of the prevalence of these disorders in the public population. Alcoholism was found to have a 13.6 percent lifetime rate in the general population. I think those statistics were pretty significant at the time. About six percent lifetime prevalence of drug abuse disorders.

Now, when you look at this population, you look at their use of addiction services. Only about 22 percent of people at some point in their life use treatment services. The majority of people do not make it to our clinics and hospitals for treatment. If you look at heroin abuse, approximately ten percent of people are in programs at any one point in time. So the vast majority of people are not in treatment that have these disorders.

If you look at this 22 percent that actually go for alcohol or addiction treatment, it's really roughly split between people that go to addiction experts or mental health experts versus people who go to general physicians. So that a lot of these people are actually going and being treated in some form by their general practitioners, not by addiction specialists.

I work in a general hospital and alcohol and substance abuse is very prevalent in the general hospital setting and the primary care setting. It's been estimated that 25 percent of general inpatient medical admissions are due to some kind of addiction complications for alcohol or smoking or other addictions. And if you look at the outpatient practices, about 20 percent of those folks have some complications from addictions.

Heroin abuse estimates have always ranged around a million of opiate users in this country. You've probably been reading the paper that there's a recent surge again in heroin abuse because of the purer forms of heroin that can be snorted. People are afraid of HIV infection. When I was in New York I would read articles about Wall Street players that were turning away from cocaine and turning to heroin because they could use this drug at work and not be as easily detected as they were on cocaine. Cocaine in the general population has waned a little.

You can't go a day without looking in the paper and reading about crack cocaine in the inner city settings. There's a large study in New York looking at homicide and the combination of cocaine use and firearms as very lethal. But in the general population, we're turning away from cocaine somewhat.

I want to put in a plug for nicotine addiction. That's probably our number one health concern in terms of preventable behavioral disease. Still, even today 26 percent of our population smokes cigarettes, despite all the years of warnings by medical personnel, and 30 percent of cancers are due to smoking.

I want to try to make this as clinical as possible and I also want to try to leave some room at the end so you can ask questions. I know that there's a lot of real life kinds of questions that you have that I may not touch on during the talk, but we can pick up during the question and answer phase.

The first study I want to highlight is a study by Mark Schuckit. Mark Schuckit is a very prominent researcher out in San Diego...
and he's been following sons of alcoholics for years. So he has some of the best longitudinal studies of people that are at high risk for alcohol abuse.

This is a study from the American Journal of Psychiatry. He looked at a series of 500 or so sons of alcoholics in matched controls. When he looked at these kids as teenagers, he looked for something called alcohol tolerance.

Now, these are kids that are drinking but not yet alcoholic. They're in their late teens. When you expose them to alcohol, the sons of alcoholics would have a less of a response to alcohol, they would have higher tolerance than the matched controls, about ten percent had this low response.

He would match them at age 20 and he followed them for ten years - and he's going to follow this group for the next few decades. It's going to be a very important study.

At the ten year follow up, 50 percent of the sons of alcoholics had developed alcohol abuse or dependence and only 14 percent of the control. So this low response to alcohol as a teenager may be a marker for further development of alcohol abuse.

The study is actually still part of the series that Dr. Schuckit is following. He matched 39 of these pairs at age 20. These are white males, by the way. A lot of times with these studies, you have some problems in generalizing because they're going to pick some population, maybe a VA population or maybe a out of treatment population or a treatment population, and these populations may be much different. But this is a group of white males.

There's always been this thought, and this really goes way back, that there may be some kind of personality to predict alcoholism. George Valiant has been following a group of Harvard college students for decades and with his long term, 40, 50 year follow up of these folks, he didn't find any personality trait or disorder that really could predict future alcoholism.

Mark Schuckit really is confirming this with this particular series. He used these personality tests that are listed here, and out of the eight test scores, none of them predicted future alcoholism ten years later, except anti-social personality.

But the problem with anti-social personality is that the diagnosis includes a lot of behaviors that are alcohol related sometimes or may be related to social economic status. These are getting arrested, getting into fights. A lot of these things are included in the anti-social personality criteria. So it's a little problematic, but if you exclude anti-social personality, there isn't any personality trait or disorder that predicts future alcoholism.

I want to talk a little about co-morbidity. This is a study by Mueller in the American Journal of Psychiatry. As you know there's a big overlap between alcohol and depression. Forty percent of alcoholics have a lifetime history of some kind of depressive disorder. About 30 percent of depressives have a lifetime diagnosis of alcoholism. This is another longitudinal study with a 10-year follow up of major depression and alcoholism.

All the studies I'm presenting are well designed studies, that's why I picked them out. It had research diagnostic criteria. These were people that were seeking treatment. Again, a specific population that we're looking at. The result was that people that were never alcoholic or currently non-active were twice as likely to recover from major depression.

So it's very important obviously to treat depressive disorders. In this particular study, there was a lack of effect on reoccurrence. But untreated depression and alcoholism have this curious interaction. I want to switch gears a little bit and talk about some recent, there's been an explosion in research in alcohol and substance abuse. In psychiatry in general with biological approaches of the last several years, it's a really a burgeoning field and there's a lot of interesting research and they're applying a lot of the technology, sophisticated technology to alcohol and substance abuse research.

This is a study with positron emission tomography of PET scans. This study matched alcohol subjects at eight to 15 days, 16 to 30 days and 31 to 60 days, post-cessation abuse or detoxification. What they found that the alcohol subjects had a global brain metabolism increased during detoxification, especially in the frontal and parietal regions.

In 30 days most recovery, there was recovery in the brain metabolism. That sort of matches our clinical impression that really three to four weeks is a magical period for a lot of things. Most of the depressive symptoms resolve at that point, most of the cognitive findings resolve four to six weeks post-cessation of use. What's interesting though, that at 31 to 60 days there was decreased activity of alcoholics in the basal ganglion.

People have been very interested in the category of post-acute withdrawal syndrome. This is the concept that people are going to have subacute withdrawal symptoms for several weeks or months of post-cessation of use. And there's some problems in terms of the clarity of that diagnosis, it's probably multi-factorial. But this is really some evidence that there may be some lasting brain findings that could correlate with these clinical symptoms that we see. Also there was lower metabolism in older alcoholics and with longer history of use.

I wanted to look at, being a CL psychiatrist I picked a couple studies that looked at the relationship between alcohol and trauma. This study looked at 2,500 trauma patients. These were patients who were admitted within 24 hours of injury and survived their injury. They were using the GGT and the MAST.

The MAST is a short 13 item alcohol inventory to help diagnose alcoholism. GGT is obviously a liver enzyme. Patients admitted with blood alcohol level of over 100 had a 2.5 greater likelihood of readmission than those not intoxicated. That might seem ob-
vious, but the clinical implications are there's a lot of opportunities to intervene with people in the general hospital setting.

That's really where my research is heading now, to identify these people and develop treatment strategies for people that are in the hospital because of complications of alcohol and substance abuse. Maybe at some future time I can come back and talk about that research. This study was controlled for sex, minority status, employment, Medicaid status, mechanism of injury. It was important to control for these because they are all risk factors.

This is another trauma study that looked at the effect of alcohol intoxication and chronic alcohol use on morbidity and mortality from trauma. The result was that chronic but not acute alcohol abuse had twice the risk of complications from trauma, particularly pneumonia. Any of you who remember your clinical work on the wards, you know that a lot of alcoholics have a lot of complications, bone marrow suppression. I really don't want to bore you with all the medical complications of alcohol, but obviously it has multi-systemic effects on the body and infections are very prominent and this study sort of documented that.

I wanted to look at some treatment, new treatment studies. We've been using librium detox for years now and there's a reason for that, because there's been several large studies that show that it's really superior to probably any other approach for medical detoxification at this point probably because the effectiveness of benzodiazepine treatment of alcohol withdrawal and the benzodiazepine's safety factor index.

This study was a randomized double blind control trial comparing librium QID fixed dose, this is over three days. Basically it gave 50 milligrams of librium QID for the first day and then 25 QID for the next two days and they were comparing versus librium PRN or a symptom triggered approach. In other words, they would bring somebody into the hospital and watch them, and if they developed signs and symptoms of alcohol abuse, they would give them librium PRN.

The Clinical Institute of Withdrawal Assessment of Alcohol revised, this is a 20 item screening test that nurses can actually get very good at using that sort of looks at signs and symptoms of alcohol abuse and you can quantify it, so that you can use this as a rough measure of whether someone needs more medication or whether you can hold at that point. This was a study of VA patients, they were matched for age, prior DTS, admissions and the admission findings. It's important, the prior DTS.

The upshot of this is I'm going to say that you have to individualize treatment. Still if you get a history of somebody whose had several seizures, has had DTS, you better go ahead and medically detox that person. There's a chance that you could get away with not doing it, but I think you really have to select people that need medical detoxification. What this kind of study and the primary outcome was that symptom triggered approach was as efficacious and decreased treatment duration and amount of benzodiazepine used.

This may actually be the primary outcome for the vast majority of people, that you can get away with this PRN approach to medical detoxification and you can possibly get people out of the hospital quicker. They use about a quarter of the amount of librium using this approach as a mean, compared to the fixed approach. But again, I want to caution you that people need to use an individualized approach and there are patients that I certainly wouldn't hesitate to do a medical detoxification on.

This is another treatment study looking at buspirone. One of the most complexing problems clinically I have is the treatment of anxious alcoholics, that particular combination of co-morbidity. Obviously you don't want to give them the benzodiazepine at post-withdrawal or in recovery because benzodiazepines are a drug of abuse. If they drank on top of the benzodiazepines, you can have a serious potential for overdose.

So we've been trying to develop different strategies of treating anxious alcoholics. Buspirone has the advantage of not being a benzodiazepine, not being cross tolerant with alcohol, having a good safety index. The problem has been does this really work in alcoholics?

This is a pretty important study. It's a double blind, placebo controlled trial of buspirone as an adjunct to cognitive behavioral psychotherapy and anxious alcoholics. Again this is a specific population. These are people in treatment, they're getting psychotherapy, they're probably pretty high functioning. The buspirone group had a better retention, had lower Hamilton scores which is a scale for anxiety, slower return to heavy alcohol consumption and fewer drinking days after six months of follow up. It seemed to work better with patients that had higher pre-treatment levels of anxiety.

This wasn't this year, this was last year, but there's some excitement about the use of Naltrexone which is an opiate antagonist in the treatment of alcoholics. Again I'm highlighting these studies because there are some very interesting psychopharmacological studies, approaches to these patients down the road.

There are a lot of people trying to replicate this but Vopicelli in '92 demonstrated that Naltrexone, an opiate antagonist, seemed to help alcoholics, they had less craving, they had better retention and treatment, less drinking days.

Liver transplantation. I was trying to get a sense of the folks in the room. Many of you may not be involved in okaying monies for liver transplantation. One of my duties at Northwestern is working in the team that is doing liver transplants. I'm the transplant psychiatrist. This is sort of a daily concern of mine, evaluating alcoholics that are being considered for a liver transplantation. As you obviously know, liver transplants are expensive, it can range from a low of $150,000 to half a million dollars.

So it's very important to properly select these patients, and there's been a lot of controversy. We've come a long way. Twenty years ago there was a law in Michigan that you had to have two years
of sobriety before you could be considered for a liver transplant. That was basically a death sentence. Almost by definition, if you need a liver transplant, you’re not going to make it past a year.

Some of the big centers, like the University of Pittsburgh, had the luxury of doing a lot of transplants and being able to take risks with a lot of people, started to do a lot of them. Through the years other centers have, too. The big concern was are these people going to go back to drinking after the transplant, and do these people actually survive as well? There’s been several studies. I just highlighted a couple that show that levels of survival with folks that have transplants that are alcoholics are comparable to non-alcoholics. The people rarely return to drinking.

It’s very important, the evaluation process, to screen people properly. We look at psychiatric pathology, history of drinking, family support, social stability, substitute activities, and sense of hope, really the same prognostic indicators that we look at in general for people recovering. About a fifth of all transplants are in abstinent alcoholics.

HIV and alcoholism, I’ll just talk about this briefly. Actually the Schleifer study was the study I was involved with in Jersey where we started to look at high risk populations and look at heterosexuals in alcohol populations and see whether they were at higher risk for HIV compared to the general population. Actually both of these studies found that in these high risk populations, these heterosexual alcoholics had a five percent rate of being HIV positive. That’s much higher than the general population.

So these are high risk people, these are people who need to be screened for HIV. I think that’s becoming prevalent now in alcohol centers, in hospitals in general, but specifically alcohol treatment programs, that you approach these people for testing.

I don’t know if anybody is here from Empire Blue Cross/Blue Shield, maybe they could comment on this study. But I found this was interesting. Heroin abuse, opiate addicts are usually perceived to be minority folks, low socio-economic class and I mentioned the newspaper articles that have really been highlighting higher functioning people that use opiate.

This was a study of Blue Cross/Blue Shield between 1982 and 1992, and based on admitting diagnosis and capture/recapture technique, basically a fancy way of trying to capture people that weren’t captured just by looking at admitting diagnosis and that was looking at AIDS cases, there was a formula for that.

But adding this all up, they found that 141,000 opiate users in their prescription plan. This is people that are insured with private insurance. About one percent of the insured were intravenous drug users. If you add up children and adults, about two percent of adults. So this is not an uncommon problem in the private insurance field.

I’ll just talk about this briefly because you may not really be involved in this a lot. We’ve been looking at alternatives to methadone maintenance treatment. Buprenorphine has been one such alternative approach. This was a double blind study of comparing methadone and buprenorphine.

What it showed, it had a similar retention rate of opiate use, positive urine retention rate. The advantage of buprenorphine is that it may have less withdrawal than methadone. One of the stickiest problems of people on methadone is then getting them off of methadone. You have to slowly withdraw them and there’s a lot of methadonophobia of withdrawal.

The next three studies are nicotine patch studies. This was a meta-analysis of all the double blind placebo controlled nicotine patch studies. These were studies that looked at the nicotine patch of four weeks or longer, employed at random assignment, used biochemical measurements. There were 17 such published studies up until September of 1993.

This was published in JAMA. What it found—you may have heard about the results of this particular study—was that at the end of treatment, over several weeks, the patch basically doubled the success rate over the placebo. Then if you look at the six month follow up, that roughly held that doubling of success rate.

The important thing was this was despite the type of patch, whether it was a 16-hour patch, 24-hour patch, whether you weaned the person from the patch or not. A lot of manufacturers think you should wean. This is very important because this stuff was expensive. I don’t know if your plans are paying for it, but it’s a little bit more than a pack of cigarettes. If somebody’s going through a prescription plan, it could be $200 a month or so for these patches. The duration past eight weeks was not important. Usually if it’s going to work, its going to work and you’re going to know in the first two weeks. If it doesn’t work in the first two weeks, these particular authors are suggesting that you might want to increase the strength of the patch. But usually you’ll know pretty quickly.

The other important thing that people are looking at is whether behavioral counseling increases the quit rates. Generally it does. It may not have as much effect as people have thought, but certainly adding the patch with intensive behavioral counseling increases the quit rates. The problem is that for the general practitioner, they often don’t have the luxury or have the resources to refer these people, so should they just put people on the patch? I think the results of studies like this suggests that yeah, the patch may alone be better than nothing in terms of helping people get off nicotine.

This was a patch study looking at physician advice. There’s a nice program that the National Cancer Institute intervention program puts out. You get a little packet teaching doctors how to teach their patients to stop smoking and it helps set a stop smoking date for them.

This was a study looking at the patch physician advice and a nurse follow up, that used biochemical testing and they used
100 percent abstinence as an outcome criteria and basically it showed that it was pretty successful, this combination. 46 percent were abstenent at eight weeks versus 20 percent placebo, and that held at one year.

This was a study of the real world use of the patch. The problem with studies is that they’re a little artificial. It’s good to look at use of pharmacology treatments in the real world. This study just went out basically and surveyed people that are using the patch, older people, 55 to 74. Obviously this was a self-report and there’s a certain percentage of false report rate. But 29 percent of the people self-reported quitting with the patch for at least seven days and 27 percent for 30 days.

So older folks in the real world have found success with the nicotine patch. The interesting thing though, is that very few of these people actually receive any advice about it from either the physician or the pharmacy. So they’re just getting the prescriptions with very little instructions about it. I think that might maximize their effectiveness if we could do that.

This is a cocaine study. It’s really only the one I’m going to include here. But there’s been a lot of interesting match treatments. Treatment matching has been the buzz word for the last several years in terms of treatment. You want to match the person to the correct treatment and that just a cookie cutter approach everyone is going to be less efficacious, less efficient.

This is a study of psychotherapy, this was a manual driven psychotherapy. It was very structured on how it was given and people were well trained and pretty uniform in what people do. It was a relapse prevention type of psychotherapy and medication using desipramine. Every few years there’s a new wonder drug that’s going to treat alcohol addictions.

We were mentioning ten years ago it was lithium, people felt that lithium was going to help treat recovering alcoholics, even alcoholics that didn’t have a history of depression. Actually there’s been recent studies that show that’s not the case. Desipramine, about five years ago, was real hot. This is a group out of Yale, Tom Costen, has sort of done a lot of work with this. And there’s been a lot of negative studies in different populations for desipramine. But this is an interesting strategy of combining medication and psychotherapy.

So they looked at four groups, random design, relapse prevention plus desipramine, and clinical management, basically basic drug counseling without specific psychotherapy or relapse prevention approach with desipramine, relapse prevention and placebo and clinical management and placebo. It was interesting that all groups showed significant improvement. There still were 30 percent positive adherence but actually that means that there were 67 percent of people that were clean. That’s pretty good.

One of the things I want to highlight is that with addiction disorders people who don’t work in the field have a very pessimistic view of people recovering from alcohol and addiction, but if you look at it as a chronic disease, we do pretty well, about two thirds of people at some point will recover from their illness. When you compare this to other chronic disease like diabetes or hypertension, and you compare cure rates, we do pretty well.

Overall between these four groups, there were no difference in the groups; however, a higher severity did better with relapse prevention and lower severity and depressed subjects did better with desipramine. Again this is the idea of matching the patient with the treatment and this is just one of several ways there are ongoing to help us do that. Still, only 40 percent completed the therapy, the whole 12 weeks. Relapse prevention, if you don’t know, really emphasizes looking at the high risk situations, reducing exposure to cocaine, developing coping strategies for craving and developing alternative behaviors to cocaine use.

I wanted to just talk about some psychotherapy epidemiological studies. This is a study by Reiger and actually this is part of this ECA study that was done in the '80s again. Ten percent of people used outpatient mental health during a year, 6.4 specialty mental health, and 5.6 percent general practitioners. Again, people that have alcohol and drug problems and mental health problems don’t all go to psychiatrists, psychologists and social workers. They’re almost equally going to their general practitioners for help, and they’re just as likely to see people for substance abuse problems.

This may be actually a study that many of you folks know much better than I do, but these are a couple of recent studies from the American Journal of Psychiatry by Olsson and Pincus. This was the 1987 National Medical Care Organization expenditure of household survey of approximately 15,000 people. About three percent of people per year receive psychotherapy. This was from the patient’s perspective. That’s what they thought they were getting, psychotherapy. One reason that I’m including this is because I think a lot of these people have alcohol and drug problems, that are buried in here. About half of the patients had 25 or more visits, had significant medical disability.

Again this overlaps with what I do on a daily basis. I see people who have general medical problems and are in need of psychotherapeutic help. That’s a significant part of my practice and there are a number of people there that need psychotherapy at these general medical clinics. 50 percent made more than 20 visits and used 62.9 percent of the total psychotherapy. This may be a statistic that’s very familiar to you, that there are a small percentage of people, in terms of the total number of psychotherapy visits, are using the majority of those visit times. Usually very brief visits are for medical conditions, things that are done by general medical practitioners.

Longer term visits are usually made for more specific psychiatric conditions than are done by mental health specialists. Part of that same series, there are higher rates of work impairment and the worst general health are found for users of psychotherapy than non-users. Primary care physicians do only 1.8 percent of total psychotherapy visits. There’s this perception that general
practitioners are out there doing all this psychotherapy. This study sort of suggested that maybe they’re not.

With managed care, folks really may have less time to spend with patients as we go on, and are less able to do general support of psychotherapy patients. 31 percent of psychotherapy was using some psychotropic medication compared to five percent that are seeing non-physicians. 30 percent of the visits are not for psychotherapy.

In other words, they may be for consultation, medication or other uses. This is the cost analysis: 31 percent who receive psychotherapy, 14.1 percent are of national outpatient expenditures. This study really just highlights that very few people are getting pharmacal therapy. Out of this study of 634 depressed patients, only 12 percent were receiving antidepressants, 19 percent minor tranquilizers and 11 percent both. A good percentage of these people receiving antidepressants medication at sub-therapeutic dose.

One of the things that we do as psychiatrists in working with our other medical colleagues is to really emphasize the need for optimal treatment, if they’re going to go about doing this or if they’re uncomfortable with it, referring them to mental health specialists. Sometimes giving not enough antidepressant is worse than not giving any at all.

In this study, they had a way of rating severe depression and approximately 30 percent of people with high severity received any antidepressant, and that’s pretty concerning.

This last study just looked at outcome of depression, anxiety in a primary care setting at one year and 3.5 years. It really highlights that a majority of people, no people recover in time without treatment. A lot of people have only partial recovery at three and a half years and you can look at it as a all or none phenomenon, either you have a depression or not. But really the study looked at degrees of depression and they found that people may go from severe depression to moderate depression or a lot of symptoms to a few symptoms. A lot of these people without treatment don’t fully recover.

That’s the end of my prepared remarks. I don’t know how much time we have for questions. Two minutes. I’ll take one or two.

AUDIENCE MEMBER: Given the importance of nicotine addiction, I’ve often thought why are there not programs for intensive treatment both inpatient and outpatient of nicotine addiction as for other addictions? Do you have any thoughts on that?

DR. FRANKLIN: Well, I think there haven’t been a lot of people interested and trained to do that. Actually there’s an effort now to introduce this with medical students. A lot of older docs clearly aren’t going to be retrained to do this. If we can catch medical personnel early in their career and get them more comfortable recognizing these people, referring them for treatment and developing a group of people that are going to go out and set up these programs, I think one of the problems is that programs cost money. If programs are offered free, people are more likely to come. I run a lot of psychotherapy groups for cancer patients. Once they hear that there’s a fee involved and their insurance doesn’t pay for it or only partially pays for it, they’re less likely to come. I’d like to see increased funding for these kinds of programs. I think overall the cost effectiveness will be real great.

AUDIENCE MEMBER: If the FDA declares nicotine an addictive drug, I think you’ll find that payment will be forthcoming.

AUDIENCE MEMBER: It’s not so unusual in the underwriting process to see applicants who are on a multitude of analgesic medication with addiction properties. People with migraine headaches or low back pain, we often see are on lots of Tylenol #3, some are on percocet, occasionally we see them on dilaudid and sometimes they’re having tremendous doses of addicting medications on a daily basis. I wonder if you are aware of any studies defining the mortality in these subsets of individuals that we see in the underwriting process.

DR. FRANKLIN: I’m not aware, off the top of my head, of any study in terms of mortality. Chronic pain is a perplexing problem for everyone, not just insurers, but the clinicians taking care of these folks. I think people need a very careful evaluation.

One of the advances that has been set up, of pain treatment centers, sort of multi-disciplinary approaches where they’re going to see somebody whose going to do the pain block and the CS practitioner is going to evaluate psychiatric factors, psycho-social factors, they’re going to be involved in some kind of rehab, there’s going to be some cooperation with the job and insurance company. It really takes a total package to get these people back to work. As some of these studies indicate, once some of these people develop disabilities, it’s very difficult to get them back to work. Some people with chronic pain need chronic pain medication. I’m not really saying that that’s always inappropriate, especially people with chronic cancer pain and that sort of thing. I don’t hesitate giving those people medications.

When you talk about low back pain and years of Tylenol #3, percocet use, after two or three years these people are going to show up in my office. It may not fit the classic signs of addiction, going out, bumping people over the head. I’ve seen they’re not having work problems because they’re not at work but they have become psychologically dependent on the medications and it’s very difficult to withdraw them at that point.

When you combine all these medications together it has cognitive effects. These people are more likely to fall down, get in motor vehicle accidents. There’s a lot of reasons not to have more medications that you absolutely need.

(Applause.)

DR. GRAHAM: Thank you, John. That was really an excellent overview.