ANA/NJ
ACOUSTIC NEUROMA ASSOCIATION of NEW JERSEY

**ANA/NJ Newsletter**
**Vol. XIV, No. 3, September 2014**

## Chapter Meeting, Lawrenceville, April 6, 2014

The Spring chapter meeting was held at the Lawrenceville Branch of the Mercer County Library System (Route 1 South). There was good attendance of 25 AN patients and caregivers. Dave Belonger presided. He distributed copies of the tentative agenda for our 4th Mini-Conference, scheduled for October 26, 2014, in Berkeley Heights. Brad Zimmerman spoke to remind everyone about the important Yale University Acoustic Neuroma Causation Study currently seeking participants (anyone over the age of 20 diagnosed with acoustic neuroma). To participate in the study, please go online to the website of the national association at www.ANAUSA.org.

The 'Care and Share' discussion that followed these announcements was a good one. It's always good for new ANers to reflect upon their experiences, and it helps a lot that other ANers are present and willing to describe how they coped with often similar experiences. Whether recent or past ANer, your attendance at the meeting was appreciated. Please feel free to call or email Wilma Ruskin if you have an important question or concern that the meeting did not address. Also contact Wilma if you have a suggestion for a topic concerning acoustic neuroma that might be addressed by a speaker at a future meeting of ANA/NJ. The program planning committee always appreciates having input from the membership.

### Dr. Karajannis to Speak at Conference*

We are very pleased that Dr. Matthias Karajannis (NYU Langone Medical Center) has accepted to be the keynote speaker for the timely topic "Genomics, Personalized Medicine & Acoustic Neuroma" at our October 2014 Mini-conference. Readers of the newsletter will recall that our March 2014 issue observed how expert investigators were excited by the identification of the NF2 gene/merlin culprit in the growth of acoustic neuromas, both familial and sporadic, as it proved. Dr. Karajannis is one such important expert investigator, intrigued to do further research into NF2, merlin, the complex processes of cell proliferation, and the possibility of discovering an effective therapeutic drug for acoustic neuroma. He recently led a clinical trial at NYU to explore the effectiveness of the drug *lapatinib* for stopping growth in acoustic neuromas. Co-investigator on the trial was Dr. Jeffrey Allen, director of the NYU Langone Comprehensive NF2 Center.*

*See "Targeting Auditory Tumors," *NYU Physician*, vol.62 (Winter 2010-11).

## Notices

● We are happy to welcome two new members of the ANA/NJ Board of Directors: Kathy Cecere (Budd Lake, Morris County) and Gaby Hecht (Westfield, Union County).

● An ANA/NJ member has graciously offered to match, dollar for dollar, all donations made to ANA/NJ up to a total of $1000. Please consider helping us to meet the $1000 goal by adding a donation when you renew your membership. The matching contribution will double the value of your gift!

● Philanthropic sources of funding are important in support of research for rare diseases like acoustic neuroma that affect relatively small numbers of people. The Making Headway Foundation, for example (www.makingheadway.org), established to help provide care for children with brain or spinal cord tumors, is a major sponsor of research and clinical initiatives to fight Neurofibromatosis Type 2 (NF2) for the NYU Langone NF Center, located in New York at the Hassenfeld Children's Center for Cancer and Blood Disorders. NYU Langone also works closely with The Children's Tumor Foundation (www.nfregistry.org) to create a patient registry and trials consortium for NF2 patients.

● Dr. Karajannis has informed us that the exploratory clinical trial at NYU for the drug *lapatinib* has ended, but a similar trial for a drug named *everolimus* remains open. He notes: "These studies recruit patients with sporadic vestibular schwannomas who undergo surgery at NYU [or sub-sites] and are willing to take the study drug for 10 days prior to surgery so that we may analyze the tissue and learn about the drug effects." Another trial, limited to NF2 patients, has just begun for *axitnib*, an anti-angiogenesis agent that has been shown effective in stopping growth in some cancer cells. For further information, visit www.ClinicalTrials.gov.

## Genomics and Personalized Medicine

> It is far more important to know what person the disease has than what disease the person has.
> (Hippocrates)

Dr. Francis S. Collins, the current director of the National Institutes of Health, has called DNA *The Language of Life.*[1] It's an appropriate name for our genome, the amazing 'information molecule' that carries our personal set of genetic instructions in every one of the 400 trillion cells in our bodies. The famous double helix structure of DNA was discovered by James Watson and Francis Crick at Cold Spring Harbor Laboratory on Long Island in 1953. In 2000, almost 50 years later, the complete mapping (sequencing) of the genome's instruction book by the international Human Genome Project (2,500 scientists, 20 centers, 6 countries) was finally announced. "Without a doubt," said President Clinton at the White House ceremony on June 26, "this is the most important, most wondrous map ever produced by humankind. Genome science. . .will revolutionize the diagnosis, prevention, and treatment of most, if not all, human disease."[2]

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[1] Francis S. Collins, *The Language of Life: DNA and the Revolution in Personalized Medicine* (2010). See the March 2014 newsletter.

[2] Collins, p.304, Appendix C: "A Brief Personal History of the Human Genome Project." (The international Human Genome Project got started in 1990.)

Dr. Collins, who headed the Human Genome Project for the U.S. beginning in 1993, stood next to President Clinton at the ceremony. In his book, he reflects back on the 'hoopla' in 2000. The great significance of the moment doesn't escape him, but he's cautious. He writes: "Some of the press announcements at the time implied an immediate transformation of medicine, but that was never realistic – lead times between basic discoveries in science and changes in practical medicine, technology, or daily life tend to be measured in decades. Indeed, most of the promise offered by the sequencing of the human genome still lies ahead. But the leading edge has arrived . . . ."[3]

We're still on the leading edge today – still in the gearing-up stage for the transformation of medicine. 'Personalized Medicine,' as it's being called, is in the process of becoming all that it can be. "The ultimate success," writes Dr. Collins, "will depend upon the visionary investment of energy, talent, and financial resources by scientists, governments, universities, philanthropic foundations, biotechnology and pharmaceutical companies, and the general public."

What specifically is personalized medicine? One important advocacy/research group on the leading edge, the Harvard-Partners Center for Genetics and Genomics, "launched [in 2001] in recognition of the excitement of the Human Genome Project," has provided the following concise, useful definition:

*Personalized medicine is the ability to determine an individual's unique molecular characteristics and to use those genetic distinctions to diagnose more finely an individual's disease, select treatments that increase the chances of a successful outcome and reduce possible adverse reactions.*

*Personalized medicine is also the ability to predict an individual's susceptibility to diseases and thus try to shape steps that may help avoid or reduce the extent to which an individual will experience a disease.*[4]

How might acoustic neuroma benefit from such a shift in the practice of medicine to a more genomics-based approach? One possibility to consider is that the predictive power of the genome for identifying an individual's risk of disease (genetic predisposition) could be employed to help reduce the number of very large tumors that keep being reported by our periodic ANA patient surveys. Thus a genetic predisposition for AN spotted in a 40 to 60-year old patient by an alert, genetics-trained primary care provider could red flag the need to schedule a diagnostic MRI. Genetic predisposition does not mean predetermination of disease, but it could serve as a valuable marker for detecting an asymptomatic or otherwise unsuspected acoustic tumor before it becomes overly large. As Dr. Robert Martuza (Mass General Hospital) reminded us in ANA *Notes* several years ago: "Despite the fact that we have excellent diagnostic techniques such as MRI, we still see people with very large acoustic tumors. This should not be happening."[5]

Genomics and personalized medicine hold the promise of dealing effectively with a wide range of diseases that should not be happening, in the U.S. and worldwide. Much progress has been made over the past decade, but as observed by Dr. Eric Green, the director of the National Human Genome Research

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[3] Collins, p. 3.

[4] See http://pcpgm.partners.org , "Mission and History," Harvard-Partners Center for Genetics and Genomics.

[5] Dr. Robert Martuza, "Acoustic Neuroma Research," ANA *Notes* (December, 2001).

Institute (NHGRI), there is a great need for continuing advance research and collection of genomic data. At Senate sub-committee budget hearings in 2013, Dr. Green stated:

*This extraordinary increase in data generation allows us to understand genome structure and function and through this knowledge to learn how genomes contribute to health and disease. For example, in 1990, we knew of ~50 genes that, when mutated, caused a human disease; in 2003 that number was almost 1,500; and today, it is nearly 3,000. [In addition], knowledge about the genome basis for our responses to medications – an area of science called pharmacogenomics – has also grown steadily. In 1990, only four FDA-approved drugs required labels that pointed out the relevance of a patient's genetic makeup for that medication; by 2003, this number had increased to 46; and today it stands at 106.*[6]

The website of NHGRI (www.genome.gov) provides important notices of both successes and problems in the transformation to personalized medicine. One major problem the Institute has wrestled with is finding ways "to bridge the gap between genomic discoveries made in the research lab and the realities faced by patients and healthcare providers in the clinic." For this purpose, the Institute has created a Genomic Healthcare Branch headed by Dr. W.Gregory Ferro, a primary care physician with genetics training. Dr. Ferro and other Branch members seek "to find novel ways to integrate genomics into healthcare that have a minimal – and possibly positive – impact on the time crunch everyone in medicine feels."[7] In this regard, for example, the Genetics in Primary Care Institute has observed: "While general practitioners recognize their role in genetic diagnosis and management, they cite inadequate time, education and genetic-focused resources as reasons for discomfort with management of patients with genetic diagnoses."[8]

A second important factor in the transition to personalized medicine is the cost of genomes. How many patients will be able to afford a print-out they can hand to their primary care doctor, and say: "Here's my genome, Doc! See any problems?" The first complete human genome in 2000 cost nearly $3 billion. Biotech companies such as Illumina claim they will soon be able to deliver full human genomes for $1,000, but this seems questionable.[9] The FDA shot down the 'direct-to-consumer' plan for limited genetic checkups (240 diseases for $99) by the company 23andMe.[10] We'll need to stay tuned.

## Cells

Researchers have posited that we have 400 trillion cells in our body. Wow! The word cell comes from the Latin *cella*, meaning 'small room.' And these 'small rooms' are indeed very small; science writer Rebecca Skloot figures "several thousand could fit on the period at the end of this sentence." You'll find a good description of how cells – "the building blocks of life" -- are structured and function at Wikipedia.org (Cell biology), for example. But we wish especially to call attention here to Rebecca Skloot's delightfully crafted, non-technical explication of cells (and the genome) in her award-winning study of the famous so-called HeLa cells – "the cells that never died." In the Prologue to this fascinating study, entitled *The Immortal Life of Henrietta Lacks* (Crown, 2010), Skloot writes:

"Under the microscope, a cell looks a lot like a fried egg: It has a white (the *cytoplasm*) that's full of water and proteins to keep it fed, and a yolk (the *nucleus*) that holds all the genetic information that makes you *you*. The cytoplasm buzzes like a New York City street. It's crammed full of molecules and vessels endlessly shuttling enzymes and sugars from one part of the cell to another, pumping water, nutrients, and oxygen in and out of the cell. All the while, little cytoplasmic factories work 24/7, cranking out sugars,

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[6] NHGRI, 2014 Budget Request, June 4, 2013, at www.genome.gov/27554768.
[7] NHGRI, "Building Bridges: Moving Genomics into Clinical Care," www.genome.gov/26022484.
[8] www.geneticsinpimarycare.org (2/24/2014).
[9] See "Is the $1,000 Genome for Real?" *Nature*, January 15, 2014, www.nature.com.
[10] For example, *The Week* (December 20, 2013).

fats, proteins, and energy to keep the whole thing running and feed the nucleus – the brains of the operation. Inside every nucleus within each cell in your body, there's an identical copy of your entire genome. That genome tells cells when to grow and divide and makes sure they do their jobs, whether that's controlling your heartbeat or helping your brain understand the words on this page. . . All it takes," Skloot observes, "is one small mistake in the [cell] division process for cells to start growing out of control. Just *one* enzyme misfiring, just *one* wrong protein activation and you could have a cancer." (Or perhaps a benign acoustic neuroma?)

**Active Tinnitis Support Groups**
**in New Jersey**

Ewing (Mercer County)
Leader: Dhyan Cassie, Au.D
856-983-8981
Dhyan1@verizon.net

Point Pleasant (Ocean County)
Leader: James Malone
732-714-7040
njhypno@yahoo.com

Vineland (Cumberland County)
Leader: David Levin
davemlevin@verizon.net

Rivervale (Bergen County)
Leader: Holly Rubens
hrbr@verizon.net

Voorhees (Camden County)
Leader: Linda Beach
linda.beach@advancedent.com

Note: the above are support groups in NJ having leaders and scheduled formal informational meetings. The American Tinnitus Association (www.ata.org/support) also lists 'help network' volunteers who provide one-on-one phone and email support, as follows:

Colonia: Jim O'Keefe 732-382-2333
Eatontown: Warren Tudor, Jr, 732-928-3446
Kinnelon: Jessica Moore,
7 Galloway Terr. (07405)
Lawrenceville: Wilma Ruskin, 609-799-4442
Sussex: Elizabeth Kobe, 973-293-8876

**'Watchful Waiting' – What Does It Mean?**

In his 2012 book on making *Critical Decisions* (See Newsletter, June 2013), Dr. Peter Ubel examines how problems in medical decision-making can arise when doctors use common words in uncommon ways. There's a curious 'doctor-speak' that often befuddles patients. For example, patients may fail to realize that it's actually a good thing when a doctor says a test is 'negative.' And then there's the phrase 'watchful waiting.' Dr. Ubel reports on a case for prostate cancer where the patient thought this proposed

option meant, “We’re going to ignore the tumor and hope that it goes away.” The confused patient decided to have his prostate surgically removed immediately. It’s been proposed that we scrap ‘watchful waiting’ in favor of something more resolute, such as ‘active surveillance.’ Or perhaps ‘Wait and Scan’ would be preferred.

## Doctor-Patient Encounters – What Did the Patient Say?

A *British Medical Journal* report (November 8,2012) observes that doctors too often ignore or misunderstand what patients want in terms of treatment. There are large gaps between what patients want and what doctors think they want. The report recommends that patients need to be fully informed by doctors about the risks and benefits of any treatment options, and that patients for their part need to state their treat-ment preferences clearly and firmly. The report speculates that informed and engaged patients could help to cut healthcare costs since they “often choose to have less-intensive care and are more careful about having lots of procedures.”In contrast, a University of Chicago Medical Center study (*JAMA Internal Medicine*, May 27, 2013) has concluded that involving patients in decisions raises healthcare costs. “The patients who preferred to work with their doctor rather than delegate decisions spent roughly 5% more time in the hospital and incurred about 6% higher costs, the study found.”

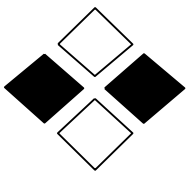
## ‘Wait and Scan’ – When to Take Action?

Researchers at the Gentofte University Hospital in Copenhagen, Denmark, have evaluated the hearing changes experienced by 636 ‘wait and scan’ patients with acoustic neuromas 2.0 cm or smaller. The mean observation time was 3.9 years, with a range of 0.3 – 11.4 years. The median age at diagnosis was 57.6 years, ranging from 15 to 85 years. As far as possible, annual MRI scans and audiological examinations were performed. “Of the 636 patients, the observation period was terminated by surgery in 118 and by irradiation therapy in 118, in most cases because of significant tumor growth.”

The purpose of the research was to assess the benefits and risks of a ‘wait and scan’ policy for treatment of small acoustic neuromas, and especially the degree to which patients with small ANs and good hearing might not only run the risk of progressive hearing deterioration during the time of ‘wait and scan,’ but also miss the advantages of early candidacy for hearing preservation surgery or radiation therapy.

The researchers found: “At the time of diagnosis, 334 patients (53 per cent) had good hearing and speech discrimination of better than 70%; at the end of the 10-year observation period, this latter percentage was 31 per cent. In 17 per cent of the patients, speech discrimination at diagnosis was 100 per cent; of these, 88% still had good hearing at the end of the observation period. However, in patients with even a small initial speech discrimination loss, only 55% maintained good hearing at the end of the observation period.”

The researchers concluded that ‘wait and scan’ patients with small tumors and normal speech discrimination should seek active treatment (surgical or radiotherapy) as soon as tumor growth is established. (See *Jour of Laryngology & Otology*, vol.122, 2008; also ,Dr. Selesnick’s article on wait and scan in the ANA/NJ Newsletter for April 2011).



# ANA/NJ Mini-Conference

## "*Acoustic Neuroma 2014: Issues and Research*"

Sunday, October 26, 2014 9:00am – 3:30pm
Summit Medical Group
Lawrence Pavilion, One Diamond Hill Road
Berkeley Heights, NJ

### Program

**Registration and Coffee** 9:00-9:45

**Welcome by Dave Belonger, Vice President of ANA/NJ** 10:00

**Doctors' Panel: "Diagnosis Acoustic Neuroma: What Next?"** 10:15-11:45

- Dr. James Liu ,*Moderator (*Rutgers/NJMS)
- Dr. Michael B. Sisti (Columbia/NY- Presbyterian)
- Dr. Christopher J. Farrell (Thomas Jefferson)
- Dr. Philip E. Stieg (Weill Cornell)

**Lunch** 12:00-12:45

**Keynote Address: "Genomics, Personalized Medicine and Acoustic Neuroma"** 1:00-2:00

- Dr. Matthias A. Karajannis (NYU Langone Medical Center)

**Doctors' Panel: "Treatment Modalities and Hearing Preservation Outcomes"** 2:15-3:30

- Dr. Samuel Selesnick, *Moderator*, Surgery (Weill Cornell)
- Dr. Shabbar F. Danish, Gamma Knife ( RW Johnson)
- Dr. Christopher J. Farrell, FSR (Thomas Jefferson)
- Dr. Louis E. Schwartz, CyberKnife ( Overlook Hospital)
- Dr. Henry K. Tsai, Proton Beam (Somerset ProCure)

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**Questions concerning the conference or for registration?** Call or email Jane Huck at 908/725-0233 or janehuck@msn.com after September 15.

**Directions to Summit Medical Group, Berkeley Heights, NJ**

The most direct way to Summit Medical Group is via **Route 78**. From **78East**, take Exit 43, Berkeley Hts/Watchung. Follow the exit road to the light at Valley Rd and turn left onto Valley Rd. Go to the first light and turn left onto Diamond Hill Rd. Follow Diamond Hill Rd to the entrance sign for Summit Medical Group, Lawrence Pavilion/Parking Lots 1&2. In the Lawrence Pavilion lobby, take the elevator down to 1R, the Café/Conference area. From **78West**, take Exit 43, New Providence/Berkeley. Bear right onto Diamond Hill Rd and follow the instructions above for Summit Medical Group, Lawrence Pavilion.

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