Rancho Los Amigos Post-Polio Support Group

Newsletter - February 2013

Exercise Guidelines

With Vance C. Eberly, M.D.
Rancho Los Amigos National Rehabilitation Center
Downey, California
Reported by Mary Clarke Atwood

This information was included at presentations in December 2008 and 2010.
Updated April 2012

Dr. Eberly has been the orthopedic specialist in the Rancho Los Amigos Post-Polio Clinic since 2001. He sees Rancho patients every Friday afternoon; he also has a private practice. Dr. Eberly's association with Rancho Los Amigos began as a young resident working in the post-polio clinic with the famous polio specialist Dr. Jacquelin Perry. Although Dr. Perry is officially retired, she visits the Rancho Los Amigos campus and its post-polio clinic weekly and Dr. Eberly continues to consult with her.

Grading Muscle Strength

Before discussing exercise, Dr. Eberly reviewed how we determine muscle strength. Muscles are graded from zero (flaccid paralysis) to five (normal strength). This is not a linear scale. So when your strength goes from grade 5 to grade 4 you have actually lost about 50% of the

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strength in that muscle. When you drop to grade 3 you have lost another 50% and are then down to 25% muscle strength. Keep in mind that activities of daily living (ADL) do not require grade 5 muscle strength because you are not working at maximum efficiency all the time. Grade 3 muscle strength is all that is needed for ADLs. When you go down in strength, you are going down in endurance as well.

Muscle Strength Grading	
Muscle Grade	% functional strength
5	100%
4	40% to 50%
3	15% to 25%
2	10%
1	
0	

Exercise Guidelines

The rule of thumb is that if you have grade 3 muscle strength you should not be doing an exercise program because ADLs are exercise. If you go above and beyond that, the muscles can get overworked, and there can be neuronal drop-off and permanent weakness.

If your muscle strength was evaluated and you know that a muscle group is grade 3+ or better, then you can do a graded exercise regimen for that muscle group. It is recommended that you feel completely recovered after 15 or 20 minutes of exercise and you do not feel exhausted later that night or the next day, which would mean you have done too much. You need to be smart about what to do. Over time, you will get a little bit weaker. If you try to do exercises you did 15 or 20 years ago, you can't. "There is a little bit of denial in there as well" he said.

There have been some studies that show that a person with adequate strength can increase his endurance with some activity. The guidelines are: some endurance activity for 30 minutes, 3 times a week, at 50-60% of your maximal heart rate. Strengthening exercise would be 5 or 10 repetitions per muscle group about three times a week. [The repetitions do not need to be done all at once] Again, it is recommended that you feel completely recovered after 15 or 20 minutes of exercise and do not feel exhausted later that night or the next day. Those muscles should not be aching later that day or the following day, which would mean you had done too much. You need to be smart about what to do.

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Some people tell Dr. Eberly that exercise has made their muscles stronger. He responded that the polio affected muscles are not getting any stronger but you are strengthening the muscles that are weakened from disuse.

There is a fine line between not doing anything and doing too much. A weak polio muscle that doesn't do anything is going to get weaker. You have to learn from your body and act accordingly.

After the age of 50, people lose about 1 to 2% of their strength per year; people with post-polio syndrome seem to be on the higher end of this. Polio survivors who are not experiencing post-polio syndrome are on the lower end, the same as the general population.

Can I Exercise?

For those people who had polio and whose muscle strength is globally about 25%, then activities of daily living are exercise for those people. If they go out and try to exercise, they run the risk of developing PPS because they are making those nerves work much harder than they should. Remember, you have damaged nerves doing more than they should. If you really push them you are going to wear them out sooner and it is going to make you weaker by doing exercise rather than making you stronger. That weakness is permanent - it is not recoverable because you killed off those nerves by overworking them.

If a person is thinking about starting an exercise program, Dr. Eberly first recommends a manual muscle test (MMT) done by a good physical therapist. Then look at the MMT results. If most of those muscles are grade 3 or less you should not be doing an exercise program. However you should also avoid doing nothing, because a weak muscle group can be made weaker by disuse. There is a fine line between overuse and disuse.

People who have PPS usually know their bodies and understand what they can and cannot do. Exercise is based upon your muscle strength. Sometimes a small amount of exercise is good. It all depends upon the individual, and everyone is different.

Vaccine Switch Urged For Polio Endgame

Inactivated virus vaccine could deliver the final blow.

By Ewen Callaway, Nature News

By sunrise on a warm December morning, Janila Shulu's team are out in the dirt roads and alleyways of Ungwan Rimi, a poor neighborhood in a predominantly Muslim section of Kaduna city in northern Nigeria. Three female health workers, accompanied by a community leader, dart from house to house, squeezing a few drops of polio vaccine into the mouths of all the young children they can find, even those who pass by on the street. By 1 p.m., after giving hundreds of doses, they stop for the day — the first of a national five-day effort.

Such campaigns are the backbone of the global push to eradicate polio, but this month the World Health Organization (WHO) in Geneva, Switzerland, proposed a shift in vaccination strategy from oral vaccines to injected ones that may have to be administered in clinics. The change is needed to mop up the last remaining pockets of polio, but experts say that it poses challenges in places such as Kaduna city, which have poor access to health care.

The new policy is an important step towards eradication, says Nicholas Grassly, an epidemiologist at Imperial College London, but implementing it will be difficult. "There are some big ifs as to whether it can happen," he says.

Jonas Salk developed the first polio vaccine in 1955, an injected vaccine containing killed virus, but the oral live vaccine developed a little later by Albert Sabin is the workhorse of the Global Polio Eradication Initiative. This public–private effort, started in 1988 and coordinated by the WHO, has cost about $8 billion so far. The Sabin vaccine is composed of three live but weakened strains of polio. It is cheap and easy to administer, making it ideal for national campaigns that involve tens of thousands of minimally trained workers.

But the live viruses in the Sabin oral vaccine can revert to disease-causing forms, especially in populations where immunity is not widespread. Northern Nigeria has been battling such vaccine-derived outbreaks since 2005, and one emerged last year in Pakistan.

In a January 4, 2013, announcement, the World Health Organization called for oral polio vaccine containing the polio strain type 2, one of the Sabin vaccine strains, to be phased out — perhaps in as little as two years. The wild form of type 2 has been stamped out globally, but vaccine-derived forms of the strain still circulate in Nigeria and neighboring countries. Oral polio vaccination will continue, but it will use a vaccine that protects against just the two other types of polio virus that are still circulating in their wild form in

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Countries such as Nigeria, Pakistan, and Afghanistan.

Meanwhile, the policy also calls for the introduction, as quickly as possible, of the oral vaccine's old competitor: the inactivated Salk vaccine. That costs more than ten times as much as the oral vaccine and requires trained health workers to administer it, says Roland Sutter, a vaccinologist at the WHO. But it carries no risk of causing polio. By giving children an inactivated vaccine that protects against all three subtypes of polio, health workers hope to gradually stamp out vaccine-derived outbreaks.

"You have to have a transition period" in which both oral and inactivated vaccines are used, "because if you stop cold turkey you're going to have outbreaks", says Vincent Racaniello, a virologist at Columbia University in New York City. Once the remaining wild polio types are wiped out, the WHO will phase out all oral polio vaccines.

The high cost of the inactivated polio vaccine remains a significant hurdle for the plan, which depends on a reduction in cost to less than 50 cents per dose from the current cost of more than $2, says Sutter. Boosting the immune response by including adjuvants, and delivering the vaccine under the skin instead of into muscle, could help to lower the dose required and cut costs, as could new kinds of vaccine, he says.

Health infrastructure poses another big hurdle, says Grassly. Delivering the vaccine in clinics instead of door to door will pose a challenge for Nigeria, which has one of the lowest rates of routine immunization in the world. Less than 50% of children receive a complete schedule of childhood vaccinations, and in parts of northern Nigeria that figure is around 10%.

"We, as a global community, have to do a much better job of integrating polio and routine immunization," says Zulfiqar Bhutta, an immunization expert at Aga Khan University in Karachi, Pakistan, and a member of the WHO committee that issued the new vaccination policy. He sees the eventual switch to inactivated vaccines as an opportunity to align polio eradication with routine immunization. "We should have done this a lot earlier," he says.

Rancho Los Amigos Post-Polio Support Group

Meeting Schedule

Saturday, February 23, 2013 - **Annual Potluck**

This is always a fun time.

Please bring something that is easy to prepare, and easy to eat.

If this is difficult for you, don't worry about it.

There is always an abundant supply of delicious food.

The support group will supply beverages, cups, plates, and eating utensils.

Unless notified separately, all meetings are in room 1150 of the Support Services Annex at Rancho Los Amigos National Rehabilitation Center. Meetings are from 2:00p.m. to 4:00p.m. For additional information, please contact:

Diane at 562-861-8128 or Richard at 562-862-4508
or e-mail us at: RanchoPPSG@hotmail.com

Post-Polio Support Group of Orange County

Meeting Schedule

Saturday, March 9, 2013 - **Travel, with Orange County Travel**

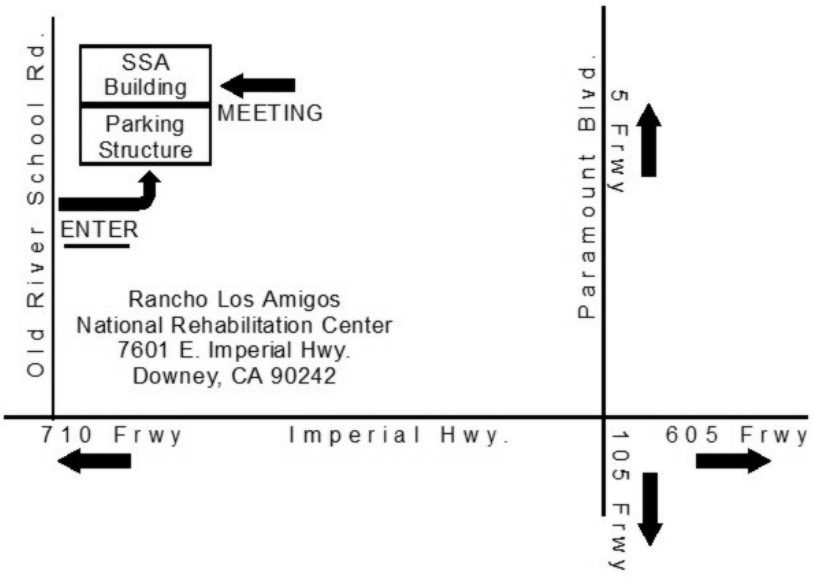
The weather will be warming up by March, and our thoughts will turn to travel.

May 2013 - **Dr. Susan Perlman**

Exact date to be determined.

All meeting are from 2:00p.m. to 4:00p.m. unless notified separately

For information, please contact:
Marte Fuller at 562-697-0507 or Marilyn Andrews at 714-839-3121



Our meetings are in the Conference Room 1150, of the Support Services Annex (SSA) Bldg. Parking is very convenient in the parking structure or in front of the SSA Bldg. Remember, all meeting are open to family and friends.

Please Join us!

Annual Potluck

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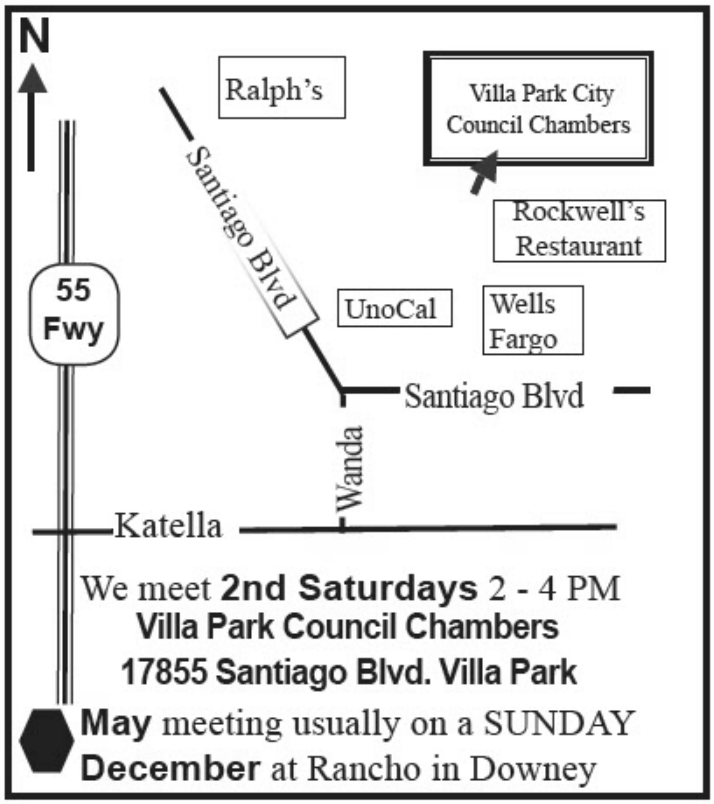

Rancho Los Amigos PPSG
12720 La Reina Avenue
Downey, California 90242

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Support Groups are Informative!

Support Groups are Fun!

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