

# Kidney Konnections

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Bay Area Association of  
**Kidney Patients**

The Bay Area Association of Kidney Patients is an all-volunteer, non-profit organization formed to educate and support Bay Area kidney patients.

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## Understanding Your Lab Test Results

By Marco Martin

On May 23<sup>rd</sup> the BAAKP cordially welcomed Dr. Brian Carrie to share his wealth of knowledge with us on reading and understanding lab test results. This is a topic of great importance in the management of kidney disease, not just to kidney patients but to their loved ones. Originally from Scotland, Dr. Carrie is a nephrologist with the El Camino Renal Medical Group in Mt. View, is privileged at El Camino Hospital, and has served as the head of the Nephrology Division at Santa Clara Valley Medical Center. We were pleased to have a person of Dr. Carrie's caliber share his time with us and conduct a question and answer presentation. Dr. Carrie also spent one-on-one time with individuals from our audience answering specific questions that an individual's doctor may not be able to go over as a result of time constraints. This is a hallmark of why the Bay Area Association of Kidney Patients provides these important sessions.

Dr. Carrie advised that the first thing you should do is verify that the lab test report is yours. Check that every page has your name on it; errors can and have occurred.

Being aware that kidney disease can disrupt balances in other bodily systems, doctors like to monitor various chemicals. Below are some comments unique to the presentation on notable items depicted on lab results, as explained by Dr. Carrie.



**Dr. Brian Carrie**

Blood test results are categorized into a top heading followed by individual test results. Target ranges are established by both a patient's condition and existing medical guidelines.

**Hematology** [This category gives information about red and white blood cell characteristics.]

- WBC = White Blood Cell Count – Indicates if the person has an infection.
- RBC = Red Blood Cell Count – Not considered

as important as the WBC or hemoglobin result.

- HGB = Hemoglobin – Indicates if anemia is present and at what level. As kidney function goes down, less erythropoietin hormone is made by the kidneys. This leads to anemia.
- HCT = Hematocrit – This is normally about 3x that of HGB.
- MCV, MCH, MCHC – These indicators center around red blood cells; MCV measures the size of the RBC. Platelet count influences a person's ability to clot. Aspirin, for example, reduce the platelet function but not the actual platelet count.

**Differential** [This category creates a profile on the types of white blood cells in the person's body.]

**General Chemistry** [This is a catch all category for measurements not part of a specific group.]

- Sodium – A measure of water metabolism, and not how much salt you have ingested. Drinking plenty of water causes this number to decrease due to dilution. Frequently this number is lowest just before dialysis.

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- Potassium – Since 90% of the potassium in your body is removed by the kidneys, doctors must keep this element on the radar, so to speak. Very high or very low potassium may cause heart irregularities or skeletal muscle weakness.
- CO<sub>2</sub> and Chloride – These agents share an inverse relationship. Certain kidney abnormalities can drive the CO<sub>2</sub> down — basically this means there is a build up of acid in the blood.
- BUN – Nephrologists do not generally look at this number as much as they look at the creatinine value. It is too easily influenced by dehydration and protein intake.
- Creatinine – Produced by muscle metabolism, this number is a very good indicator of kidney function. Labs differ as to what is the acceptable range. A rise in creatinine to the high normal range can represent as much as a 50% reduction in kidney function. Most people without kidney disease are at about 0.6 – 0.7.
- Estimated GFR – This is a most important number and reflects kidney function. It is a calculated number which uses creatinine, age, gender, and ethnicity to calculate at what percentage of normal a person's kidney are working.
- Albumin – It is well established that good albumin control leads to better dialysis outcomes.
- Phosphorus – The lower this number, the better a patient's survival rate.
- AST, ALT, Alkaline Phosphatase – These tests gauge how well the liver is working and is ordered for those who have or may have liver problems. Statin medications, used for cholesterol control, can alter these results in a VERY small minority of patients.
- Magnesium – This element can easily accumulate in kidney patients, thus it is worth looking at. Diuretics may cause low magnesium as well as potassium.
- Uric Acid – Causes gout, which, if it occurs often enough, will lead to long term damage to the joints.

Other tests also exist that help a medical professional provide good care. **Urinalysis** (Urine Analysis) is when a dipstick is used to measure certain components of a person's urine, in combination with examining the urine under a microscope. Urine tests are usually order to either check for protein in the urine (a clear sign of kidney disease) or to detect signs of a urinary tract infection.

The **ANCA panel** is geared toward discovering the likelihood of there being an autoimmune disease present. The objective of this test is to measure the inflammatory markers which may damage tiny blood vessels.

Other groups of tests are used to measure, in kidney patients, how the parathyroid gland is functioning. This gland is adjacent to the thyroid gland. It is known that as phosphorus levels rise (diseased kidneys cannot filter phosphorus well), calcium levels drop. This triggers the parathyroid gland to secrete parathyroid hormone (PTH) to try and bring the body's calcium levels back up. Long term, if left untreated, this condition leads to the body taking calcium from your bones in order to try and neutralize the fall in calcium levels. Needless to say, this is not an ideal situation. The solution is to control the levels of phosphorus and PTH by using both a phosphorus binder (Tums, Fosrenol, Renvela, Phoslo) and vitamin D as a supplement.

As far as dialysis is concerned the KT/V is the standard to measure the effectiveness of a patients dialysis treatment. The target KT/V varies according to the frequency of dialysis. For instance, the less often dialysis is performed the higher you want the ratio of KT/V to be. Also this number's goal is in the 2.x range for peritoneal dialysis and in the 1.x range for hemodialysis.

Dr. Carrie also fielded some interesting questions from the audience. We learned that kidney stones occur more in hot, dry places, where people tend to get more dehydrated. We were told that drinking more liquids in general helps prevent kidney stones. In general doctors advise patients with reduced kidney function to drink to quench thirst and not necessarily to push liquids or restrict them. Dialysis patients who produce little or no urine have to be careful with their fluid intakes. I had the chance to personally speak with Dr. Carrie and I learned that kidney disease really carries no symptoms of pain. Thus we need these laboratory exams to detect and measure the extent of this disease.

We hope you learned enough from this article to get you started with learning more on your own. Our presentations always carry more information than can fit into an article. The entire presentation can be viewed on our web site at [www.baakp.org](http://www.baakp.org). A great way to participate in your education is to learn more about our quarterly meetings where you can have the chance to ask the speaker(s) questions directly, and also obtain information from other patients, members, and professionals who attend our events.

## California Living Donor Registry

The first hurdle in creating a registry of living organ donors in California was cleared when Measure SB1395 was passed unanimously by the State Senate on May 31, 2010. The measure now heads to the Assembly.

SB 1395 would authorize the creation of a not-for-profit entity to be designated as the Altruistic Living Donor Registrar and authorizes the establishment and maintenance of the Altruistic Living Donor Registry for persons who would like to identify themselves as kidney donors during their lifetime. In other words, the bill would create a central database of people willing to donate a kidney to one of thousands of Californians awaiting transplants. It would also make it easier for individuals to register as organ donors by requiring them to check a box when they fill out a driver's license application. Currently, you can voluntarily register to donate your organs upon your death through the Donate Life California Registry ([donatelifecalifornia.org](http://donatelifecalifornia.org)). Donate Life reports that approximately 25 percent of those applying or renewing a driver's license or identification card sign up to be deceased donors.

More than 21,000 people in California are in need of new organs according to state figures. Of them, 17,000 are specifically waiting for kidneys. One-third of them will die before receiving a transplant.

In many cases, living donors give a kidney to a family member or loved one. But sometimes, the loved one isn't a good match. A living donor registry would help with paired exchanges, in which a living donor could swap with a stranger in return for that person's loved one offering a kidney to theirs.

The registry is being championed by Apple co-founder Steve Jobs, the recipient of a donated liver, and is supported by Gov. Arnold Schwarzenegger.

## Thank You to Our Supporters!

The BAAKP is grateful to Dr. Brian Carrie of El Camino Renal Medical Group for presenting this helpful information on "Understanding Your Laboratory Tests," especially his sacrifice of a Sunday afternoon. Special thanks too to [Genzyme Pharmaceuticals](#), for the grant of \$1000, thereby supporting the last four meetings. We also appreciate the generosity of [Willows Market](#) for again donating the speaker's gift basket. Also, special thanks to the [Palo Alto Medical Foundation](#) for the perfect meeting room and their continuing support of our activities. Without the efforts of these community members, our programs would not be possible.



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### Stay updated!

[www.twitter.com/BAAKP](http://www.twitter.com/BAAKP)  
[www.Facebook.com/baakp](http://www.Facebook.com/baakp)  
[www.Baakp.org](http://www.Baakp.org)

Click the links if you are reading an electronic version of this newsletter.

This newsletter is not intended to be a substitute for advice from your medical professionals. Please consult your physician or other medical professionals about any changes or additions you make to your kidney care.

## Other Local Kidney Support Groups & Meetings

### Patient Support Group

Open to all pre-dialysis, dialysis, pre-transplant, and transplant patients, friends, and family

Meets at 1 pm the second Saturday of every odd month at: Kaiser Permanente-Santa Clara Hospital Building, 700 Lawrence Expressway, Santa Clara, CA

Contact: Lorraine Maloon, LCSW  
408-851-1044

### T.R.I.O Transplant Recipients International Organization

Silicon Valley Chapter  
Meets on the 2nd Thursday of each month at 7:30 pm. El Camino Hospital, Conference Room E, 2500 Grant Road, Mountain View, CA 94040  
[www.bayareatrio.org](http://www.bayareatrio.org)  
408-353-2169

### San Francisco Polycystic Kidney Foundation

For general PKD information, call:  
1-800-PKDCURE

For information about local groups, go to:

[www.pkdcure.org/sanfranciscochapter](http://www.pkdcure.org/sanfranciscochapter)

For chapter specific questions, please send email to:  
[sanfranciscochapter@pkdcure.org](mailto:sanfranciscochapter@pkdcure.org)

### The National Kidney Foundation of No. California & No. Nevada

Has many resources available and sponsors many events.

For more info:

[www.kidneyncanv.org](http://www.kidneyncanv.org)  
415-543-3303

**National Kidney  
Foundation**  
[www.kidney.org](http://www.kidney.org)

***Educating and  
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Please visit our website at  
[www.BAAKP.org](http://www.BAAKP.org)  
for back issues of  
our newsletters and videos  
of our past meetings!

*Newsletter publication dates are November, February, May and August  
If you've received an extra copy of this newsletter, please pass it along!*

***SAVE THESE DATES!  
General Meetings:***

- **October 3, 2010**  
**Dr. Toby Gottheiner on  
Blood Pressure & Kidney  
Disease & the BAAKP  
Birthday Party!**

- **January 9, 2011**  
**UCSF Kidney Transplant  
Team with Dr. Steven  
Tomlanovich**

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***Steering Committee  
Meetings***

**Second Wednesday of  
every month at 6:00 pm**

*If you would like to join us in the  
leadership of this group, we would  
love to have your help.*

*(Call for location)*

**[bay.area.kidney@gmail.com](mailto:bay.area.kidney@gmail.com)  
650-323-2225**

## **Hypertension, Salt and Chronic Kidney Disease with Dr. Toby Gottheiner**

On Sunday, October 3, 2010, we are thrilled to have scheduled Dr. Toby Gottheiner as our featured speaker. Dr. Gottheiner is a local nephrologist with the Palo Alto Medical Foundation and recently received the *Champions of Hope Award for Physicians* from the National Kidney Foundation (of N. Ca. and N. Nev.). Dr. Gottheiner also acts as the BAAKP Medical Advisor.



Dr. Gottheiner's talk will cover the impact of high blood pressure on the kidneys and treatment strategies (in people with normal as well as impaired kidney function). He will also cover various diet and nutritional aspects of hypertension including salt.

We will also be celebrating 3 years of educating and supporting kidney patients and their families in the San Francisco Bay Area!

This free celebration will take place at the Palo Alto Medical Foundation, 795 El Camino Real, 3<sup>rd</sup> floor Conference Room, Palo Alto, CA 94301 on Sunday, October 3, 2010 from 1 PM to 4 PM. There will

be ample time for audience questions, social interaction and patient support. Kidney-friendly refreshments and birthday cake will be served!

To reserve your seat, please email us at [bay.area.kidney@gmail.com](mailto:bay.area.kidney@gmail.com) or call us at 650-323-2225.