

QUICK... SIMPLE... VALID...

URINARY TESTING METHODS

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Many tests have been proposed and used for urine diagnosis and analysis. Kits of unusual reagents have been assembled and offered to the profession. All the tests on urine are useful in excluding gross pathology but of what value in treating a patient is a urine analysis report which is negative for albumin — sugar, blood, pus cells — and possibly indican, bile and casts?

A negative respond is an assurance of some sort, not always valid, of freedom from gross pathology — but it is of little value in treatment and maintenance of a particular patient.

Tests which do have a bio-chemical significance and which materially help in the care of patients directly are sometimes little known. An evaluation of the specific gravity, total calcium, chlorides, phosphates, judgment as to liver function and vitamin C level, is possible and simply done in a matter of minutes without expensive kits or equipment by use of simple — yet fully authentic and standardized tests on urine samples. These tests are regularly performed in our office — take little time — require little equipment and yield much positive information in the care and management of patients habits and diet as well as specific indications for treatment.

Urine specific gravity is usually checked — if within normal limits forgotten — or disregarded — this simple test is an aid if interpreted properly to liver — not only kidney function. Generally speaking 1.018, not 1.021 or 1.022 is normal, if specific gravity is as low as 1.010, three factors may be present:

1. Kidney elimination is poor.
2. Faulty assimilation.
3. Mineral intake is low.

The most common cause of low specific gravity is a sluggish or torpid liver — body wastes do not eliminate when liver fails to function properly. Some low gravities are the result of a low food intake of individuals trying to control hypothyroidism by diet.

Only a very few low specific gravities are caused by kidney disfunction *Applied Nutrition — Hawkins. These facts justify the thought that low specific gravity of urine specimens in-

dicate poor **liver** and thyroid **function** rather than a possible kidney difficulty. Treatment suggestions therefore, would be to stimulate liver and thyroid function. Since the liver is supplied roughly by 5, 6, 7, 8, 9, spinal sympathetics and vagal parasympathetic; inhibitory adjusting in parasympathetic regions — upper cervical and lower lumbar and sacrum would be a good approach — use the specific gravity as an indication



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of treatment liver and thyroid techniques and support would also be indicated. There is biochemical application of treatment based on a simple specific gravity test. What could be easier?

The well known Sulkowitch reagent for estimation on urinary calcium is available through a California supplier "uri-blood-cal" or it can be made up as follows: 2.5 gm oxalic acid — 2.5 gm ammonium oxalate — 5 cc glacial acetic acid. Dilute up to 150 cc with distilled water. Add equal parts of this solution and morning prebreakfast urine and observe for about 20 seconds for cloudiness and flocculation. A hazy cloudiness is the general rule in most patients since most patients have a disordered Ca-P ratio. This indicates heavy amounts of urinary calcium — an absolutely clear solution indicates low urinary calcium. This test takes about 40 seconds, can be performed while patient is dressing, and yields useful information. Unless the patient is

ingesting a high calcium diet which is well nigh impossible with our super-refined foods, or supplementing with calcium in some forms, the heavy calcium indicates, generally speaking, loss of calcium via urinary route — foods high in vitamin D will help to bind calcium to blood stream — foods high in vitamin F transport calcium from blood stream to tissues. Foods high in A and C help keep it there. Many factors influence calcium in the body rather than neglect any — here they all are — some are useful, some are not.

1. Amount and character of calcium in diet.
2. The hydrochloric acid level — special attention is directed here to the fact that if HCL level is good it doesn't seem to make much difference what form of calcium is ingested if not — the lactate or the gluconate is best — try to raise the HCL by adjusting — this is also best! HCL support may be needed.
3. The amount of phosphorus assimilated a high protein and cereal-nuts, chocolate, and bean diet is high in phosphorus and causes an increased loss of calcium in urine.
4. The amount of potassium, assimilated potassium has a high electrochemical activity and can displace Ca and increase it in urine. Modern diet trends make it difficult to keep a level of potassium rich foods such as juices — fruit, vegetables, wheat bran, soft drinks, low enough in diet.
5. The amount of magnesium in diet, magnesium displaces calcium like potassium but with exception of milk of magnesia addicts it is not essential to consider.
6. Basal metabolic rate — high thyroids lose Ca easily in urine — low thyroids do not assimilate it, therefore both cause high urine calcium.
7. Vitamin D and bile both act alike on calcium, increase its excretion in the urine but — increase its assimilation with an edge toward assimilation.
8. Rate of growth is self-explanatory. A decrease during this period would be explainable this way.
9. The level of iron in the body. A

(Over)

high urine calcium with poor assimilation is often associated with a low iron or hemoglobin level.

10. The activity of parathyroids. Calcium levels are raised in both blood and urine levels by parathyroid increase in activity but is followed later by a decrease.

11. Intestinal rates too fast will decrease calcium in urine and blood.

So find out what calcium level is, apply yardstick of above items and generally speaking, an increase in Vitamin F, liver function, HCL or calcium intake will change the urinary calcium incredibly quick. Here again adjusting for better liver function is important — loosening of neck musculature and lymphatics promote parathyroid activity. Certainly enough gastric disorders due to low HCL have responded to adjustments in the upper dorsal region (even though this is a sympathetic area) to warrant careful adjusting, not overly stimulating. Apply logic in analysis — use adjustment as indicated, and watch the calcium level change — a simple test — 40 seconds — a few minutes thought and common sense in treatment gives a biochemical control.

A simple test for chloride level and adrenal function. Also important in the control of hypertension, in the treatment of hypertension and in general use is the Koenigsberg Test. Two solutions are used — Potassium chromate 10% — Silver Nitrate 0.74%.

Take ten drops of morning urine add one drop of potassium chromate — shake well — add drop by drop silver nitrate until a brick red color develops — a low sodium diet gives about eight drops to the end point. A regular diet based on about 1000 specimens tested runs 23-35 drops.

The urine chlorides is a good index of total intake and can be used in all but a few liver and kidney and adrenal pathologies. A low level with hypertension would warrant an increase in table salt, a high level with hypertension would warrant a decrease in salt and high sodium foods. A high level of fats in the diet show an increase in urine chlorides, as also with potassium. Since a good HCL level favors better calcium levels and since many patients suffer from calcium losses and hypertension and low gastric acidity causing gastric symptoms, two problems can be solved by getting the chlorides normal—

Urinary phosphates can be detected microscopically or by boiling urine if a cloudiness develops following boiling which disappears on addition of acid,

these are phosphates. Another method is the ph determination with PHdriion paper or with Squibbs nitrazine PH testing strip — simple and quick. Usually the greater the acidity the greater the phosphorus. The same factors controlling calcium and control phosphorus since in the main it is excreted in combination with calcium or with potassium. So, therefore, these factors are involved.

1. The level of phosphorus in diet.
2. The level of fatty unsaturates.
3. The level of HCL.
4. The level of bile and vitamin D.
5. Pancreatic function.
6. Vitamin B — vitamin B stimulates the pancreas and aids phosphorus assimilation.

7. Presence of infections — these seem to increase the phosphate level tremendously in our experience, slowing up almost always, and changing with the subsidence of the infection — how many of you recall seeing a urine loaded with some deposit in infections then clearing — again phosphates. Therefore, to sum up modify diet to provide adequate amounts of phosphorus — generally present in meat, fish, and eggs — supply foods in high "F" and adjust to get better HCL and liver function as before and try careful amounts of high B foods or concentrates to improve phosphorus assimilation.

The following chart, if copied and kept near urinalysis table, will materially aid in dietary changes to be made from the tests run.

	Specific Gravity- Acidity & Phosphorus	Urine Calcium	Urine Chloride
Meat — Fish	Increases*	Increases*	Increases*

Eggs — cottage cheese			
Vegetables	Decreases*	Decreases*	Decreases*
Potato — fruit — Cereals and Grains	Decreases†	Decreases*	Decreases†
Foods			
Fats, oils	Increases†	Increases†	Increases†
Butter, cream			
Milk	Increases†	Increases*	Increases†

*—same action on blood

†—opposite action on blood

The Ames Company of Elkhart, Indiana, produces excellent enzyme reactant strips which will quickly give pH, albumin, sugar, blood, and for those interested in infant care, the presence or absence of phenylalanine in the urine. These enzyme coated strips are marketed as combi-stix, (albumin, sugar, and pH.) Hemi-stix's give blood in urine and other solutions; Pheni-stix's give phenyl-alanine, and keto-stix's give acetone. A multiple dipping of combi-stix's, keto-stix's, hemi-stix's gives a yes or no answer to sugar, albumin, blood, acetone, and pH levels within 15 seconds after dipping, with no other preparation. What could be simpler or quicker for detecting gross urinal pathology. Hemicombistix now are available.

Vitamin C levels can be estimated by the use of dichlor phenol, indo phenyl indicator material using equal quantities of urine and indicator material. This indicator in tablet form can be secured from Good Health Supply Company, 16 Gothic Avenue, Toronto, Canada. The Sulkowitch agent for calcium is also available from this source.



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