Commentary

Elevated hair Cu may coincide with: zinc or molybdenum deficiency, biliary insufficiency or obstruction, cirrhosis or chronic hepatitis and copper toxicity. Copper toxicity may feature tremor, dementia, Parkinsonism, hemolytic anemia, jaundice and renal damage. Occasionally, emotional instability, aggressive or violent behaviors, are seen in individuals with elevated hair Cu. Suggested for further assessment of copper status are the following measurements: copper amino acid carriers in plasma (histidine, threonine, glutamine), serum ceruloplasmin, erythrocyte Cu content and urinary Cu.

Elevated hair copper may be an artifact of exposure to swimming pool water where Cu algicides are used, and of hair treatments or shampoos. Acidic wash water carried through copper pipes can also affect the hair Cu level. The probability of such contamination is reflected by the shading of the circle for Cu on the lab report.

Zinc (Zn) is at an elevated level in the hair. Elevated hair Zn almost always reflects maldistribution of zinc or dysfunction in the liver and other organs and tissues. Some studies suggest that elevated hair Zn corresponds to longstanding Zn deficiency and dysfunction in an individual. Rarely, elevated hair Zn results from global Zn excess or Zn toxicity. Blood, cell and urine analyses should be considered for diagnosis of zinc status.

With few exceptions, elevated hair Zn is consistent with prolonged deficiency of dietary zinc, poor digestive proteolysis, malabsorption syndromes or chronic diarrhea. Many possible physiological conditions or diseases may be coincident with zinc dysfunction. These include: impaired taste or smell, poor night vision, fatigue, dermatoses, gastrointestinal distress, eating disorders, obesity, sexual dysfunction, growth retardation in children and (partial) alopecia. Elevated cholesterol has been reported to correlate with elevated hair Zn. Some malignancy conditions may also raise hair Zn level.

Manganese (Mn) is at an elevated level in the hair. Hair Mn level correlates with ingestion, other exposures, and with clinical conditions related to Mn excess.

Elevated hair Mn may be the result of excessive Mn exposure or ingestion, inadequate detoxication or excretion of Mn chemicals, or exposure to radioactivity. Short term symptoms of excess body burden of Mn include: tiredness, headache, fatigue and depressed systolic pressure. Longer term symptoms may include insomnia, sexual impotence and dementia. Conditions reported to correspond with elevated hair Mn include asthenia, muscle rigidity, bradykinetic syndrome indistinguishable from Parkinson's disease, emotional instability, aberrant behaviors, aggressiveness and violence.

Hair is sensitive to external contamination with Mn. Elevated hair Mn may be an artifact of hair treatments such as perms, dyeing or bleaching. Some wash waters from private water wells may contaminate hair with Mn. The probability of contamination is reflected by the shading of the circle for Mn on the lab report.

Chromium (Cr) is at a depressed level in the hair. Hair Cr corresponds to nutritional and physiological status. Chromium potentiates insulin function. Subnormal Cr in hair is consistent with: abnormal glucose metabolism, hyper/hypoglycemia following dietary intake of sugar and carbohydrate, diabetes, and elevated blood lipids including LDL cholesterol. Symptoms or conditions may include chronic fatigue, lack of physical endurance and weight gain or obesity.

Cobalt (Co) is at an elevated level in the hair. Rarely, elevated Co results from endogenous Co excess following ingestion or inhalation of cobalt salts or organocobalt chemicals. Cobalt excess in body tissue (liver, muscle, spleen, kidney, adrenals, bone, skin and hair) may result from occupational or environmental exposures. Megadoses of vitamin B12 have not been observed to raise hair Co above the normal range. Co excess affects heme synthesis and disorders blood protein components, characteristically causing an increase in alpha-globulin. Endogenous Co excess toxicity symptoms may include fatigue, depressed iodine uptake, hypothyroid function, goiter, anorexia, nausea, diarrhea, tinnitus and occasionally dermatoses.

Elevated hair Co may be an artifact of external contamination from hair preparation products. Occasionally, hair

Commentary

analysis as an indicator for external contamination of hair with various elements.

* (if present): Observations of Bob Smith, Vice President, Elemental Analysis, who has approximately 20 years experience working with hair analysis reports.

Detoxification Profile (Comprehensive

Great Smokies Diagnostic Laboratory℠

53 Zillicoa Street · Asheville, NC 28801-10
www.gsdl.c

Patient: **DOUGLAS COPP**
Age: 51
Sex: M
MRN: 0000428962

Order Number: 34240611
Completed: October 29, 2002
Received: October 24, 2002
Collected: October 23, 2002

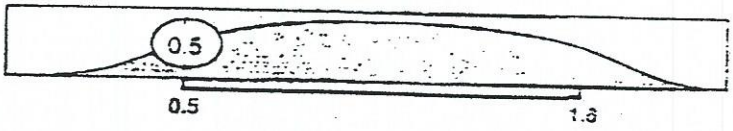
TIMOTHY SMITH MD
5281 Thomas Road
Sebastopol, CA 95472

Phase I

on program x 10 d →

Caffeine Clearance

Ref Range mL/min/kg



Phase II

Plasma Cysteine

cys deficiency

On program 7-10 d when this cys/sulf hi

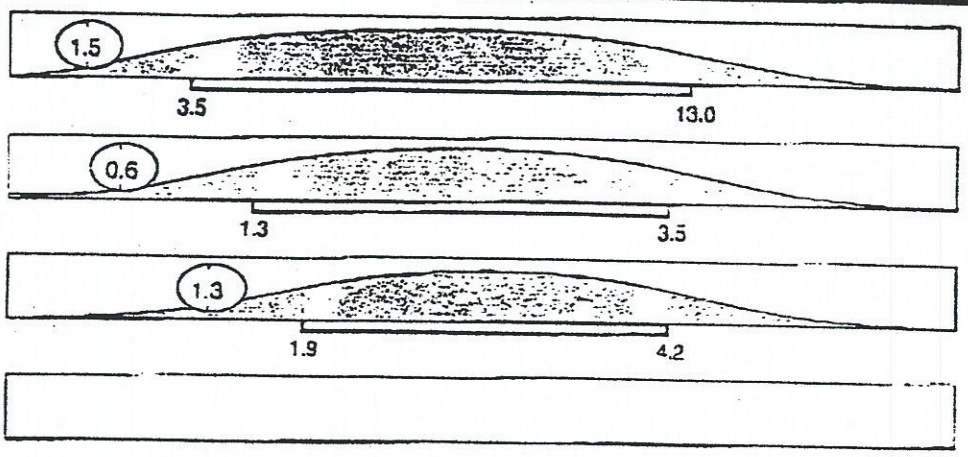
Plasma Sulfate

low Sulf.

Glutathione Conjugation	Glycine Conjugation	Sulfation	Glucuronidation
Acetaminophen Mercapturate % Recovery	Salicyluric Acid % Recovery	Acetaminophen Sulfate % Recovery	Acetaminophen Glucuronide % Recovery
9.3 (5.6 – 11.4)	39 (30 – 53)	34 (16 – 36)	38 (27 – 55)

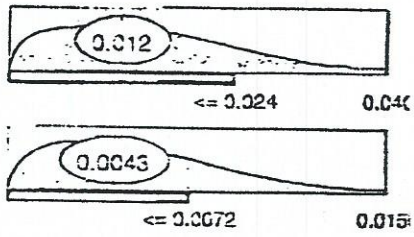
This test was developed and its performance characteristics determined by GSDL, Inc. It has not been cleared or approved by the U.S. Food and Drug Administration.

Ratios



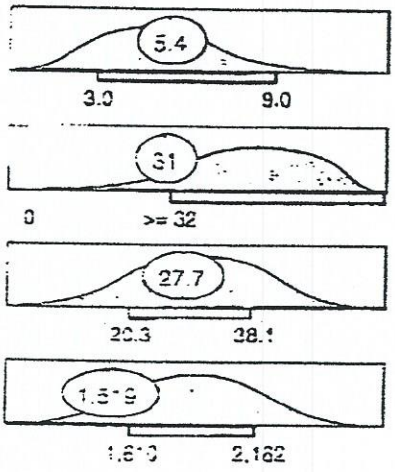
Free Radical Markers

Salicylic Acid **Hydroxyl Radical**



Lipids **Free Radicals**

no lipoic acid



Total Urine Volume

mL per 10 hours: 1,200

Commentary

Lab Comments

No plasma received. 10/24/02 TH

Commentary

Commentary is provided to the practitioner for educational purposes, and should not be interpreted as diagnostic or treatment recommendations. Diagnosis and treatment decisions are the responsibility of the practitioner.

To the patient:

Our bodies must be able to detoxify, or neutralize, toxins from the external environment as well as those produced within our own bodies. This process takes place mostly in the liver, and consists of two phases. In Phase I toxins are activated, which means that they are altered in such a way that carrier molecules (Phase II) are able to transport them out of the body. A handy analogy is the bagging of our trash (Phase I), so that the garbageman can pick it up and cart it away (Phase II). Phase I is accomplished by a family of enzymes called "cytochrome P450", and Phase II takes place via a number of important mechanisms, four of which we measure in this test, with the help of the challenge substances, caffeine, acetaminophen and aspirin. Both Phase I and Phase II of detoxification must function adequately so that toxins are able to be neutralized, and the two phases must be in balance with each other so that the activated compounds from Phase I cannot accumulate in the body and cause damage.

In your particular case, Phase I and Phase II are functioning adequately, and are in balance with each other. There is also some evidence of low anti-oxidant reserve. Anti-oxidants help to prevent free radical damage in the body ("oxidative stress") which does not seem to be occurring right now, despite the low reserve. With nutritional support, the insufficiency is usually correctable. The following is a detailed description of your test results.

To the clinician:

Caffeine clearance is within the reference range, indicating normal Phase I (cytochrome P450) activity.

Because the plasma cysteine and plasma sulfate were not available, it is not possible in this case to assess sulfoxidation ability (the generation of inorganic sulfate from cysteine).

"Note: Phase I/Phase II ratios which lie below the reference range will not be discussed within the commentary text, even though they may appear in the red boxes labeled "abnormal". At this time we have not found sufficient information to consider them clinically significant."

All Phase II detoxification pathways appear to be functioning adequately.

Urine lipid peroxides, markers for hydroxyl radical activity (catechol and 2,3 DHB) and the intracellular antioxidant, glutathione peroxidase (GSHPx), are all within the reference range.

The level of superoxide dismutase (SOD), however, was found depressed. The body utilizes this enzyme to rapidly convert the superoxide anion radical to hydrogen peroxide, which is less toxic to cells. Mitochondrial SOD requires manganese for its activity, while the cytoplasmic form requires copper and zinc. Reduced levels of SOD have been noted in several disorders, including rheumatoid arthritis, cataracts, infertility and compromised immune function. A low level indicates poor defense against the superoxide anion radical, thereby increasing the risk of free radical damage.

Reduced glutathione, an important antioxidant and detoxifying nutrient, was also found to be low. Replenishing reserves of glutathione, and maintaining optimal levels of all antioxidants can help to prevent oxidative stress.

The Phase I/Phase II ratios for sulfation, glycination and glucuronidation are all below the reference range. This is not considered to be clinically significant.

fax to
Phil Weinstein

November 4, 2002

Dear Dr. Hu:

I wish to refer my patient, Mr. Doug Copp to you for evaluation of his back problems and possible surgical intervention.

Mr. Copp injured his back while serving as a rescue worker in the World Trade Center collapse.

I am attaching a report I prepared for this patient.

I hope you will be able to see him.

The most expedient way to reach me is at 707-823-6161.

Sincerely,

Timothy J. Smith, M.D.

Timothy J. Smith. M.D.

UCSF Medical Center

Orthopaedic Surgery Clinic
400 Parnassus Avenue, 3rd Floor
San Francisco, CA 94143-0332
tel: 415/353-2808
fax: 415/353-2249
www.ucsfhealth.org

University of California
San Francisco

December 4, 2002

Timothy Smith, MD
2635 Regent Street
Berkeley, CA 94704

RE: DOUGLAS COPP
UC#: 438 77 17-8

Dear Dr. Smith:

We had the pleasure of meeting with Mr. Copp today here at UCSF Spinal Disorders Clinic for an evaluation.

HISTORY OF PRESENT ILLNESS: This is a 51-year-old male with a very interesting and complex history. This patient was the Rescue Chief of the American Rescue Team. He was called to the World Trade Center after September 11, 2001, and arrived on September 12, 2001. At that time, he was sent to six levels below ground zero to investigate for survivors where he recovered the remains of 40 individuals. The patient however at that time not only had lung damage due to inhalation, but there was a chemical sort of fluid also entering the area within which he was working. While investigating, the patient stepped on a slab of cement and slipped on dust twisting and smashing his back against concrete. Since last December, his pain has been increasing. He had an episode where his left leg went "dead." The patient has numbness into his buttocks and posterior leg. The patient has had significant respiratory problems and his back problems have been secondary to this, and it is now that he feels his respiratory problems are getting treated. He is now here for recommendations on his back. The patient was being followed by a neurologist and underwent two spinal procedures, which are unknown to him. His last procedure was two months ago, which involved injections. Since then his left foot has become stronger; however, he has different areas of numbness and some areas of improved sensation. He has a limited walking tolerance of 20 feet mostly limited by shortness of breath and also because of pain, and the sensation of his leg is going to collapse underneath him. Over the past month, he has had what he describes as a charley horse on the plantar surface of his feet bilaterally and over the posterior thighs. The patient has not been able to do a MRI because of metal deposits in his lungs, so he presents with a CT scan. The patient has not had any physical therapy because he feels he is too unhealthy and too short of breath to participate. The patient has had multiple headaches as well as head swellings and unusual reactions to foods, which he did not have prior to September 11, 2001. The patient has had a 50-pound weight gain and feels that he has lost a 1-1/2 inch of height. He has noticed increased urinary frequency, but no difficulty controlling it. The patient has been on prednisone for the lung damage for a year and recently discontinued this. The patient is on six oral steroids and on an herbal anti-inflammatory agent. The patient is unable to stand for greater than five seconds or sit on a stool without back pain. If his back is supported, he can do this unlimitedly.

PAST MEDICAL HISTORY: Prior to September 11, 2001, the patient was healthy, but since then he has had chronic headaches, weight gain, low resistance to infections possibly due to a toxic exposure, and increase in the environmental allergies and allergic reactions to food, as well as high blood pressure and shortness of breath.

PAST SURGICAL HISTORY: Two spinal procedures.

MEDICATIONS: Albuterol, Intal, Advair, Azmacort, Levothroid, Tiazac, Sporax, cromolyn sodium ophthalmic, and a total of 127 doses of pills, tablets, and powders, and drops per day.

ALLERGIES: New onset of food allergies after September 11, 2001, almonds, licorice, Flovent, and another inhalent.

SOCIAL HISTORY: The patient quit smoking a half a pack a day 10 years ago. He does not drink alcohol because he was told he could potentially have organ damage secondary to toxic exposure.

PHYSICAL EXAMINATION: The patient is a male who has had obvious weight gain. We are able to elicit 5/5 throughout his lower extremities, but this is with pain. He has decreased sensation of his lateral left foot and the dorsum of his left foot. He is negative for pedal edema. He is able to walk with a normal gait and heel and toe walk hesitantly, but with strength.

RADIOGRAPHIC STUDIES: The patient had a CT scan, which shows mild stenosis at L4-L5, which is degenerative in nature. His x-rays show degenerative changes at L3 and mild decrease in disc space at L4-L5 and L5-S1.

ASSESSMENT: Chronic low back pain after injuring.

PLAN: This was a previously healthy 51-year-old male who is the chief of the American Rescue Team who was flown in specifically to investigate the World Trade Center after September 11, 2001. We explained to the patient that his findings on the CT scan would be consistent with degenerative changes and it would unusual for him to present with leg weakness from these changes suddenly after an injury. We therefore would like him to see a neurologist at UCSF to confirm that his leg symptoms are indeed coming from his back versus any other reason for him to be experiencing left lower extremity weakness. The patient states that he has had an EMG in the past and he will need to take that report with him to his neurology appointment. We also will need the report of the CT scan, which the patient believes he has at home. A great deal of time was discussed with the patient that we typically would have the patient participate in physical therapy to treat back pain after an injury. The patient has an extensive treatment to his lungs pending and we feel that perhaps he would benefit greatly from physical therapy after he has had treatment for his lung damage. The patient will gather this information and follow up in our clinic in the spring. If we were to consider surgery on this patient, we would need to have clearance from a pulmonologist.

Thank you very much for allowing us to participate in his care. Please do not hesitate to call should you have any further questions.

Sincerely,

Serena S. Hu, M.D.
Associate Professor in Residence

cc: Mr. Douglas Copp
27 Sumption Road, Sandia Park, NM 87047

UCSF MEDICAL CENTER CLINICAL LABORATORIES
505 PARNASSUS AVE., SAN FRANCISCO, CA 94143
DIRECTOR: T.R. HAMILL, M.D.

UNIT NUMBER: 43877178

PATIENT: COPP,DOUGLAS
DOB: 08/03/1951 AGE: 51Y SEX: M

NEW ACTIVITY REPORT

PHYSICIAN: SMITH,TIMOTHY J
2635 REGENT STREET
BERKELEY CA 94704

PRINTED: 12/27/2002 03:54

LOC: ORTH

COLLECTED: 12/04/02 @ UNK
SPECIMEN : SPUTUM 5ML

RECEIVED: 12/04/2002 @ 1303 Spec No: W39350
COMMENTS: 5109439998

PROCEDURE: Respiratory Culture

FINAL 12/06/2002

GRAM STAIN : Rare PMNs , Few Epithelial cells
Numerous Gram Positive Cocci in pairs and chains
Few Gram Negative Diplococci
Few Gram Negative Rods

CULTURE : 1. Numerous Oronasal flora

COLLECTED: 12/04/02 @ UNK
SPECIMEN : SPUTUM 5ML

RECEIVED: 12/04/2002 @ 1303 Spec No: W39350

PROCEDURE: Fungal Culture

PRELIMINARY REPORT

KOH SMEAR : No yeast or fungal elements seen

CULTURE : 1. No fungus isolated after 3 weeks

* = Abnormal result, L* = low, h* = high, LL* = panic low, HH* = panic high
(Note: Lack of an * does not necessarily indicate a normal value.)
(QD) = Performed by Quest Diagnostics, 33608 Ortega Hwy., San Juan Capistrano, CA 92690
(Z) or MTZ = Performed at UCSF/Mount Zion Clinical Laboratories
1600 Divisadero St., San Francisco, CA, 94115

END OF REPORT

amend
Tchol, TG, LD
TSH 2.3
DHEAS 150
PSA 1.7
need B in UA

TriCore Reference Laboratories
2821 Stanford NE
Albuquerque, NM 87107
(505)938-8922

Patient Name: COPP,DOUGLAS F
Medical Record: X045461692
DOB:08/02/1951 Age:51Y Sex:M
Account Number:
Attending MD: Unlisted Physician
Patient ID:
Patient Phone:221-7977

H36781 COLL: 12/26/2002 14:00 REC: 12/26/2002 14:10 PHYS: Unlisted Physician
Req# : 3164066
CC TO PATIENT AT 2635 REGENT ST BERKELEY CA 94704 PH5105468022

Comp Metabolic Panel				
Sodium		140	[135-146]	mmol/L
Potassium		4.4	[3.5-5.0]	mmol/L
Chloride		109	[96-110]	mmol/L
CO2		23	[16-30]	mmol/L
Anion Gap		8	[7-17]	
Glucose		90	[60-126]	mg/dL
BUN		22	[3-25]	mg/dL
Creatinine		0.9	[0.5-1.4]	mg/dL
Calcium		9.8	[8.4-10.4]	mg/dL
Total Protein		7.5	[5.9-8.3]	gm/dL
Albumin		4.6	[3.1-4.7]	gm/dL
Globulin		2.9	[2.0-3.9]	gm/dL
Bilirubin, total		0.6	[0.0-1.4]	mg/dL
Alk Phos		66	[20-145]	U/L
AST(SGOT)		25	[3-70]	U/L
ALT(SGPT)		51	[3-78]	U/L
Fasting		YES		(SF)
Lipid Panel				
Triglycerida	H	309	[<150]	mg/dL
Cholesterol	H	239	[<200]	mg/dL
HDL		46	[>40]	mg/dL

CONTINUED

TriCore Reference Laboratories
2811 Stanford NE
Albuquerque, NM 87107
(505)938-8922

Patient Name: COPP,DOUGLAS F
Medical Record: X046461692
DOB:08/01/1951 Age:51Y Sex:M
Account Number:
Attending MD: Unlisted Physician
Patient ID:
Patient Phone:281-7977

H16753 COLL: 12/26/2002 14:00 REC: 12/26/2002 14:39 PHYS: Unlisted Physician
Req# : 3154066
CC TO PATIENT AT 2635 REGENT ST BERKELEY CA 94704 PH5105488022

Lipid Panel (CONTINUED)				
LDL(calc)	H	131	[<100]	mg/dL

LDL Cholesterol-Primary Target of Therapy
<100.....Optimal
100-129.....Near optimal/above optimal
130-159.....Borderline high
160-189.....High
>190.....Very high
Total Cholesterol
<200.....Desirable
200-239.....Borderline high
>240.....High
HDL Cholesterol
<40.....Low
>60.....High
ATP III Classification of Serum Triglycerides
<150.....Normal
150-199.....Borderline high
200-499.....High
>500.....Very High
ATP III Classification of Fasting Lipids
JAMA 2001; 285:2486-2497

CBC			
WBC	5.9	[4.0-10.6]	x10E3
RBC	4.69	[4.64-6.08]	x10E6
Hgb	14.8	[14.5-17.7]	gm/dL
Hct	42	[42-53]	%
MCV	89	[81-98]	fL
MCHC	35.1	[31.2-35.2]	gm/dL
RDW	12.2	[11.0-14.5]	%
Platelets	314	[150-400]	x10E3
Differential			
Diff Type	Auto Diff		
Neutrophils	67	[40-75]	%
Lymphocytes	21	[16-47]	%
Monocytes	9	[3-13]	%
Eosinophils	3	[0-5]	%
Basophils	0	[0-2]	%
Abs. Neutrophil	3.4	[1.8-7.0]	x10E3

(CONTINUED)

TriCore Reference Laboratories
2311 Stanford NE
Albuquerque, NM 87107
(505)938-8922

Patient Name: COPP,DOUGLAS F
Medical Record: X046461692
DOB:08/03/1951 Age:51Y Sex:M
Account Number:
Attending MD: Unlisted Physician
Patient ID:
Patient Phone:281-7977

H36783 COLL: 12/26/2002 14:00 REC: 12/26/2002 15:30 PHYS: Unlisted Physician
Req# : 3154066
CC TO PATIENT AT 2635 REGENT ST BERKELEY CA 94704 PH5105486022

Differential (CONTINUED)			
Abs. Lymphocyte	1.8	[1.0-3.4]	x10E3
Abs. Monocyte	0.5	[0.2-0.8]	x10E3
Abs. Eosinophil	0.2	[0.0-0.5]	x10E3
Abs. Basophil	0.0	[0.0-0.1]	x10E3

Urinalysis			
Source	Unknown		
Color	Yellow	[YEL]	
Appearance	Clear	[CLEAR]	
Specific Gravity	1.019	[1.003-1.030]	
pH	5.0	[5.0-8.0]	
Glucose	Negative	[NEG]	mg/dL
Bilirubin	Negative	[NEG]	
Ketones,Urine	Negative	[NEG]	mg/dL
Blood	Negative	[NEG]	
Protein	Negative	[NEG]	mg/dL
Urobilinogen	Normal	[NORM]	EU/dL
Nitrite	Negative	[NEG]	
Leukocyte Esterase	Trace	[NEG]	

UA Microscopic			
WBC	2	[0-5]	/hpf
RBC	0	[0-3]	/hpf
Bacteria	Moderate		/hpf
Squamous Epithelial	6		/lpf

DHEA-Sulfate	150	[80-560]	ug/dL
Free T3	3.7	[1.6-5.6]	pg/mL
PSA	1.7	[0-4.0]	ng/mL

PSA results were obtained with the IMMULITE DPC 2000 PSA assay. Results obtained from other manufacturers' assay methods may not be used interchangeably.

Total T3	122	[57-175]	ng/dL
Total Testosterone	4.4	[2.2-8.4]	ng/mL
Thyroid Screen			
FT4	1.1	[0.8-1.5]	ng/dL

or 25 mcg Levothroid

CONTINUED

TriCore Reference Laboratories
2811 Stanford NE
Albuquerque, NM 87107
(505)938-8922

Patient Name: COPP,DOUGLAS F
Medical Record: X04446592
DOB:08/03/1951 Age:51Y Sex:M
Account Number:
Attending MD: Unlisted Physician
Patient ID:
Patient Phone:281 7977

M36783 COLL: 12/26/2002 14:00 REC: 12/26/2002 14:39 PHYS: Unlisted Physician
Req# : 3164056
CC TO PATIENT AT 2635 REGENT ST BERKELEY CA 94704 PH5105488022

Thyroid Screen	(CONTINUED)		
TSH	2.310	[0.40-4.51	uIU/mL

All TSH values less than 0.400 uIU/mL represent 3rd Generation TSH. No extra charges apply.

Misc Referral Test PENDING

* (SF) = Performed at TriCore Reference Lab Santa Fe Branch, 455 St Michaels Dr, Ste 116, Santa Fe, NM 87505

END OF REPORT

Toxic Element Clearance Profile
Random/Timed in µg/g Creatinine

Great Smokies Diagnostic Laboratory℠

63 Zillicoa Street · Asheville, NC 28801-1074
www.gsdl.com

Patient: DOUGLAS COPP
Age: 51
Sex: M
MRN: 0000429962

Order Number: 36280198
Completed: December 31, 2002
Received: December 28, 2002
Collected: December 27, 2002

ROBERT FRIEDMAN MD
1264 Rodeo Road Ste B
Santa Fe, NM 87505

Toxic Elements

Element	(µg / g creat.)	Ref Range
Lead	20.49	<= 1.38
Mercury	1.62	<= 1.72
Aluminum	2.2	<= 74.0
Antimony	0.058	<= 0.170
Arsenic	88.8	<= 66.7
Barium	3.41	<= 7.40
Bismuth	11.111	<= 0.970
Cadmium	1.38	<= 0.74
Cesium	3.59	<= 11.20
Gadolinium	0.015	<= 0.019
Gallium	3.77	<= 3.15
Nickel	4.32	<= 9.40
Niobium	0.02	<= 0.05
Platinum	0.013	<= 0.014
Rubidium	821.0	<= 2,368.0
Tellurium	<dl	<= 0.520
Thallium	0.160	<= 0.510
Thorium	<dl	<= 0.000
Tin	0.52	<= 3.03
Tungsten	0.112	<= 0.330
Uranium	<dl	<= 0.013

Nutrient Element

Element	(mg / g creat.)	Ref Range
Sulfur	586.6	350.0-365.0

post - chelation

Provocation Comments

Post-provocation laboratory results.

Creatinine Concentration & Urine Volume

Urine Creatinine: 81.36 (30.00-209.00 mg/dL)

Urine Total Volume (in milliliters): 450

Legend

- Reference Range for Toxic Elements
- Reference Range for Nutrient Elements
- Cautionary Level - Result is outside the reference range. Pre-collection dietary variables, supplements or use of challenge substances may be the cause. Such values should be assessed with the individuals symptoms, physical findings, nutritional status and exposure potential in mind.
- Tentative Maximum Permissible Level (TMPL) - Element excretion is elevated. These levels are not strict toxicological points, but represent excessive excretion and therefore potential exposure or body burden of the element which can impact negatively on overall health. The TMPL's for Pb, Hg, Al, Sb, Cd, Ni, Tl, and Co are derived from Casarat and Doull's TOXICOLOGY: The Basic Science of Poisons 5th Ed. 1996 McGraw Hill NY, NY. with standardization of units.

Reference Range Information

Element reference ranges were developed from a healthy population under non-provoked/non-challenged conditions. Provocation with challenge substances is expected to raise the urine level of some elements to varying degrees, often into the cautionary or TMPL range. The degree of elevation is dependent upon the element level present in the individual and the binding affinities of the challenge substance.

Commentary

Lab Comments

Elevated results verified through a repeat analysis. rbw 12/31/02

<dl = Unable to determine results due to less than detectable levels of analyte.

Commentary is provided to the practitioner for educational purposes, and should not be interpreted as diagnostic or treatment recommendations. Diagnosis and treatment decisions are the responsibility of the practitioner.

Lead is above the reference range. 75% to 80% of absorbed lead is typically excreted via urine, 15 to 20% via bile, and the remainder via sweat, hair and nails. In non-provoked urine, lead levels can fluctuate according to variable dietary and physiological factors, and the level does not necessarily reflect body burden. Provoked levels, however, can be indicative of excess lead in body tissues. It is notable that for children (compared with adults), lead can be more toxic, with detrimental effects occurring at much lower levels. Furthermore, toxicity of lead can be significantly increased synergistically by the presence of either mercury or cadmium.

Most lead uptake occurs via ingestion of contaminated food or water. Inhalation of lead dusts and transdermal absorption of organic lead salts are other modes of uptake. While temporarily carried in the bloodstream, lead is at least 90% bound to erythrocytes, however, with chronic low-level or long-ago exposure, only 2% or less of total body lead remains in the blood. Lead primarily deposits and accumulates in the aorta, liver, kidneys, adrenal and thyroid glands, bones and teeth. This element interferes with membrane functions, bonds to sulfhydryl (-SH), phosphate, hydroxyl and amino sites on proteins and enzyme cofactors, and interferes with heme synthesis, iron transport, erythrocyte lifespan, and hepatic cytochrome P-450 functions. Other deleterious effects include: reduced vitamin D synthesis, slowed nerve conduction, peripheral neuropathy, hypertension (adults) and loss of IQ and developmental disorders (children). Anemia, neuropathies and encephalopathy are end-stage conditions of severe lead excess.

Although historic uses of lead (housepaint, anti-knock gasoline additives, and soldered joints in water systems) have been discontinued, old building materials, paint chips, plumbing and the environment may contain residual amounts from these sources. Other sources include batteries in cars, trucks, boats, and power backup systems, ammunition, colored glass kits, bullets, fishing sinkers, balance weights, radiation shields, bearing alloys, babbitt metal, some ceramic glazes or pigments, and sewage sludge. Some cities that have not replaced old water mains may have variable amounts of lead in the drinking water.

Arsenic is above the reference range. Most forms of ingested arsenic are excreted in urine, and variations in dietary intake such as a single meal of arsenic containing shellfish, can cause urine levels to temporarily increase by a factor of 50 to 100. Therefore, increased urine arsenic indicates exposure but does not necessarily imply tissue accumulation or toxicity. Besides ingestion, arsenic can be assimilated by inhalation and via contact with the skin. Detoxication occurs via methylation, requiring S-adenosylmethionine (SAMe). Arsenic can be increased in urine

Commentary

following administration of sulfhydryl (-SH) detoxifying agents such as DMSA, DMPS, or D-Penicillamine.

Arsenic has multiple toxic effects including inhibition of mitochondrial function, including metabolism of pyruvate, succinate and alpha-ketoglutarate (Kreb's Cycle metabolites), inactivation of lipoic acid, impairment of lymphocyte stimulation and proliferation, and interference with DNA repair processes. Symptoms consistent with excessive arsenic ingestion include garlic breath and increased salivation, fatigue, chest pain, diarrhea and hypotension. Long term or chronic signs may include hair loss, skin hypopigmentation, white-streaked fingernails, anorexia, peripheral neuropathy, leukopenia, and erythrocyte fragility.

Commonly encountered sources of arsenic include contaminated shellfish or other seafoods, edible seaweeds, production of semiconductor or photoelectric components (particularly, gallium arsenide), electroplating, galvanizing and etching processes, certain fungicides and pesticides, chemical process industry (reagents, catalysts), fireworks (intense white and blue colors), leather tanning and taxidermy, textile printing, lead and copper alloys (cable sheaths, solders, shot), and specialty glass manufacture (opal glass, IR transmitting, decolorizing).

Bismuth is above the reference range. This element is typically present at low levels in drinking water and in fruits, vegetables and grains. Most (about 90%) is not absorbed from the GI tract. However, excretion of absorbed bismuth is mainly via the urine. The over-the-counter remedy for GI distress, "Pepto-Bismol" contains bismuth subsalicylate, which is mostly unabsorbed. Certain forms of bismuth are used medicinally for peptic and duodenal ulcers, Helicobacter pylori infection, and to treat diarrhea. When taken at pharmacologic doses, urine levels may rise moderately. Absorbed bismuth that is not promptly excreted concentrates primarily in the liver and kidney, with lesser amounts going to soft tissues and bones.

The toxicokinetics of bismuth are similar to those of arsenic and antimony. Binding to sulfhydryl (-SH) sites and enzyme inactivation may occur, and methylation is required for detoxication. Nephrotoxicity with renal tubular lesions and necrosis of proximal tubules is an end-stage organ failure caused by severe bismuth excesses. Symptoms of chronic bismuth excess include decreased appetite, weight loss, general malaise and weakness, diarrhea, proteinuria (protein loss in the urine), rheumatic pains, dermatitis, gingivitis and sometimes a telltale blue-black line on the gums. Besides food, drink and pharmaceuticals, bismuth sources include: cosmetics and lipstick (pearlescent tones), low-melting temperature alloys in fuses, automatic fire sprinklers and solders, pigments and paints, semiconductors, electronic components and batteries, metal casting, and ore refining and production operations for copper and lead.

Cadmium is above the reference range. Measurement of cadmium in the urine is the preferred method for assessing overall body burden of this quite toxic element. The kidneys are the main target organ for cadmium. Accumulation of excessive cadmium causes nephrotoxicity with proteinuria, hyperaminoaciduria (generalized urinary wasting of amino acids), beta 2-microglobulinuria, glucosuria, tubular necrosis and deficient metabolism of vitamin D. Osteomalacia can be an eventual outcome. Administration of detoxifying agents, EDTA or DMSA, may increase urinary excretion of cadmium.

Besides impairing renal transport, cadmium interferes with gluconeogenic enzymes, cellular energy production and oxidative phosphorylation. Inhaled cadmium vapor/dust can cause pulmonary edema and eventually, emphysema; oral cadmium causes GI distress with severe irritation of the gastric epithelium. Absorbed cadmium, by any route, occasionally affects hematologic functions, possibly resulting in iron-disordered anemia. Neuropsychological

Commentary

problems such as mood and behavior changes are also reported. The presence of mercury or lead with cadmium may dramatically increase toxic effects.

Cadmium has many industrial, commercial and environmental sources. Plants (vegetables, especially potatoes and leafy vegetables) readily assimilate it, and contaminated soils and sewage sludge products are possible sources. Other sources include cadmium-plated hardware (nuts, bolts), electroplating processes, Nickel-Cadmium batteries, some photovoltaic cells, brazes and solders, pigments (paints, inks, glazes), cigarettes, old copy machine drums, photographic and engraving chemicals, ore smelting operations, and power plant exhaust plumes.

Gallium is above the reference range. This element is chemically similar to aluminum in that absorption of gallium from the intestines is inhibited by the presence of dietary phosphate but increased by the presence of citric or malic acid (carboxylic acids). In animal studies, gallium uptake (like aluminum uptake) is increased in iron-deficiency or low plasma transferrin conditions with deposition occurring in liver, spleen, brain, renal cortex and bone. Once absorbed, humans with normal renal function excrete 4 to 55% of a total, point-in-time exposure within four days, with urine being the major route for gallium excretion.

Although chemically similar to aluminum, the scientific literature reports gallium to be somewhat less toxic. However, with chronic exposure, there can be irritation of mucosal membranes, decreased gastric function, and kidney tubular damage. Controlled acute exposures in animals produced hyperexcitability, photophobia, rapid weight loss with anorexia, and GI distress with diarrhea and bloody feces.

Gallium nitrate is a therapeutic agent used for cancer-related hypercalcemia, Hodgkin's disease and non-Hodgkin's lymphoma. Use of gallium for these purposes is expected to cause notable urinary increases. Gallium (as arsenide or phosphide) is used to manufacture semiconductor materials, light-emitting diodes ("LEDs") and microwave components. It is used instead of mercury in high-temperature thermometers and as a substitute for mercury in arc or fluorescent lamps. Dental materials including root-canal sealers may contain gallium. In scientific or laboratory equipment, it often is used for vacuum or pressure seals and may be in "vacuum grease" as well.

TriCore Reference Laboratories
2811 Stanford N.E. Albuquerque, NM 87107 (505) 938-8922

TriCore ASO
Unlisted Provider
2811 Stanford
Albuquerque, NM 87107

PATIENT NAME	PATIENT ID	DOB	SEX	STATUS		
COPP, DOUGLAS F	X046461692	08/03/1951	M	Final		
PHYSICIAN	COLLECT DATE & TIME	DATE OF SERVICE			PRINT DATE/TIME	PAGE
Unlisted Physician,	12/26/2002 14:00	12/26/2002 14:39			01/06/2003 16:28	1
REQUISITION NO. PT.PHONE NO. LAB REF NO.						
3164066 281-7977						

COMMENTS: CC TO PATIENT AT 2635 REGENT ST BERKELEY CA (Continued)...

TEST	Result In Range	Result Out of Range		Units	Reference Range	Site Code
...94704 PH5105488022						
Comp Metabolic Panel						
Sodium	140			mmol/L	136-146	
Potassium	4.4			mmol/L	3.5-5.0	
Chloride	109			mmol/L	96-110	
CO2	23			mmol/L	16-30	
Anion Gap	8				7-17	
Glucose	90			mg/dL	60-126	
BUN	22			mg/dL	3-25	
Creatinine	0.9			mg/dL	0.5-1.4	
Calcium	9.8			mg/dL	8.4-10.4	
Total Protein	7.5			gm/dL	5.9-8.3	
Albumin	4.6			gm/dL	3.1-4.7	
Globulin	2.9			gm/dL	2.0-3.9	
Bilirubin, total	0.5			mg/dL	0.0-1.4	
Alk Phos	66			U/L	20-145	
AST(SGOT)	25			U/L	3-70	
ALT(SGPT)	51			U/L	3-78	
Fasting	YES					
Lipid Panel						SF
Triglyceride		309	H	mg/dL	<150	
Cholesterol		239	H	mg/dL	<200	
HDL	46			mg/dL	>40	
LDL(calc)		131	H	mg/dL	<100	

LDL Cholesterol-Primary Target of Therapy
<100.....Optimal
100-129.....Near optimal/above optimal
130-159.....Borderline high
160-189.....High
>190.....Very high
Total Cholesterol
<200.....Desirable
200-239.....Borderline high
>240.....High
HDL Cholesterol
<40.....Low
>60.....High
ATP III Classification of Serum Triglycerides
<150.....Normal
150-199.....Borderline high
200-499.....High

TriCore Reference Laboratories
2811 Stanford N.E. Albuquerque, NM 87107 (505) 938-8922

TriCore ASO
Unlisted Provider
2811 Stanford
Albuquerque, NM 87107

PATIENT NAME	PATIENT ID	DOB	SEX	STATUS		
COPP, DOUGLAS F	X046461692	08/03/1951	M	Final		
PHYSICIAN	COLLECT DATE & TIME	DATE OF SERVICE			PRINT DATE/TIME	PAGE
Unlisted Physician,	12/26/2002 14:00	12/26/2002 14:39			01/06/2003 16:28	2
REQUISITION NO.	PT PHONE NO.	LAB REF NO.				
3164066	281-7977					

COMMENTS: CC TO PATIENT AT 2635 REGENT ST BERKELEY CA (Continued)...

TEST	Result In Range	Result Out of Range	Units	Reference Range	Site Code
...94704 PH5105488022					
	>500.....Very High				
	ATP III Classification of Fasting Lipids				
	JAMA 2001; 285:2486-2497				
CBC					
WBC	5.9		x10E3	4.0-10.5	
RBC	4.69		x10E6	4.64-6.00	
Hgb	14.8		gm/dL	14.5-17.7	
Hct	42		%	42-53	
MCV	89		fL	81-98	
MCHC	35.1		gm/dL	31.2-35.2	
RDW	12.2		%	11.0-14.5	
Platelets	314		x10E3	150-400	
Differential					
Diff Type	Auto Diff				
Neutrophils	57		%	40-76	
Lymphocytes	31		%	16-47	
Monocytes	9		%	3-13	
Eosinophils	3		%	0-5	
Basophils	0		%	0-2	
Abs. Neutrophil	3.4		x10E3	1.8-7.0	
Abs. Lymphocyte	1.3		x10E3	1.0-3.4	
Abs. Monocyte	0.5		x10E3	0.2-0.8	
Abs. Eosinophil	0.2		x10E3	0.0-0.3	
Abs. Basophil	0.0		x10E3	0.0-0.1	
Urinalysis					
Source	Unknown				
Color	Yellow				YEL
Appearance	Clear				CLEAR
Specific Gravity	1.019				1.003-1.030
pH	5.0				5.0-8.0
Glucose	Negative		mg/dL		NEG
Bilirubin	Negative				NEG
Ketones,Urine	Negative		mg/dL		NEG
Blood	Negative				NEG
Protein	Negative		mg/dL		NEG
Urobilinogen	Normal		EU/dL		NCRM
Nitrite	Negative				NEG

TriCore Reference Laboratories
2811 Stanford N.E. Albuquerque, NM 87107 (505) 938-8922

TriCore ASO
Unlisted Provider
2811 Stanford
Albuquerque, NM 87107

PATIENT NAME
COPP, DOUGLAS F
PHYSICIAN
Unlisted Physician,
REQUISITION NO. **3164066**
PT.PHONE NO. **281-7977**
LAB REF NO.
PATIENT ID **X046461692**
DOB **08/03/1951**
SEX **M**
STATUS **Final**
COLLECT DATE & TIME **12/26/2002 14:00**
DATE OF SERVICE **12/26/2002 14:39**
PRINT DATE/TIME **01/06/2003 16:28**

COMMENTS: CC TO PATIENT AT 2635 REGENT ST BERKELEY CA (Continued)...

TEST	Result In Range	Result Out of Range	Units	Reference Range	Site Code
...94704 PH5105488022					
Leukocyte Esterase		Trace		NEG	
UA Microscopic					
WBC	2		/hpf	0-5	
RBC	0		/hpf	0-3	
Bacteria	Moderate		/hpf		
Squamous Epithelial	6		/lpf		
DHEA-Sulfate	150		ug/dL	80-560	
Free T3	3.7		pg/mL	1.8-5.6	
PSA	1.7		ng/mL	0-4.0	

PSA results were obtained with the IMMULITE DPC 2000 PSA assay. Results obtained from other manufacturers' assay methods may not be used interchangeably.

Total T3	122		ng/dL	57-175
Total Testosterone	4.4		ng/mL	2.2-8.4
Thyroid Screen				
FT4	1.1		ng/dL	0.8-1.6
TSH	2.310 – ↑ 25 levo → 50 mcg		uIU/mL	0.40-4.5

All TSH values less than 0.400 uIU/mL represent 3rd Generation TSH. No extra charges apply.

Misc Referral Test
Test Name
Result

Pregnenolone
49 ng/dL

Normal Levels (Adult): 20 to 150 ng/dL
(NOTE)
Please refer to special Pregnenolone report for additional information.

Test performed by

Performed at Esoterix, Inc., 4301 Lost Hills Road, Calabasas, CA 91301

Performing Labs
SF

Performed at TriCore Reference Lab Santa Fe Branch, 465 St Michael's Dr, Ste 116, Santa Fe, NM 87505

End of Report

Doug:

1/20/02

Please note the following changes:

- ☑ Double the thyroid dose to 50 mcg. of levothroid and take it all in the morning 15 minutes before breakfast We hadn't gone over your thyroid lab when we talked on the phone today, but Your TSH is still high so we need to increase the dose and test again in 30 days.
- ☑ Add Policosanol to lower cholesterol and triglycerides.
- ☑ Change to Kyolic aged garlic and we shall see whether it causes nausea.
- ☑ Your DHEA level is still suboptimal so increase DHEA to 100 mg. a day (four 25's).
- ☑ I am enclosing an AdrenoCortical Stress Profile kit. Do the test right away and send it off.
- ☑ I am enclosing a lab order for a repeat DHEA, Pregnenolone, and Thyroid

Good talking with you today, Doug!

Timothy J. Smith, M.D.
2635 Regent Street
Berkeley, CA. 94704
Phone (510) 548-8822
Fax: (707) 824-8111

NUTRITIONAL MEDICINE PROGRAM

FOR Douglas Copp DATE 1/29/03

Take In:

	AM	PM
Basic Supplement Program		
√ Renewal Research Multivitamin	3	3
√ Ester-C Powerful detoxifier.	It is in the drip	
√ Flax/borage caps	3	3
√ Coenzyme Q-10 100 mg.	1	1
√ Mixed Carotenoids	1	1
Supports respiratory healing.		
√ DHEA 25 mg.	2	2
√ Pregnenolone 50 mg.	2	1
Read DHEA/Pregnenolone Chapter in Renewal: The Anti-Aging Revolution. We will retest in a month and see if the level has come up to ideal.		
For Immune enhancement and Support		
√ Astragalus	3	3
• enhances all aspects of immune health • maintains liver health • exerts strong antioxidant and free radical scavenging properties		
√ Vitamin A Micellized	Reduce to 2 drops (15,000 IU) daily	
Also necessary for respiratory health and healing the lungs.		
√ Zinc 30 mg.	1	1
High hair zinc levels indicate low blood/tissue levels.		
Supports immune system healing.		
√ Ambrotose	4 teaspoons a day	
Nutritional Medicine to lower cholesterol, LDL and triglycerides and to raise HDL:		
√ Policosanol	2	2
Thyroid medication:		
√ Levothroid 25 mcg	2	
	Take both 15 minutes before breakfast	

For strengthening the Immune System, increasing glutathione, production, and assisting hepatic detoxification:
√ Whey Protein: Start with 1/8 tsp in 8 oz water and take it three times a day. Build up slowly as tolerated to ten grams daily in spring water.
√ Lipoic acid (Thiocid) 100 mg. 2 2

For strenthening the Immune System, increasing glutathione, production, and assisting hepatic and respiratory detoxification:
√ N-Acetylcysteine 250 mg. 2 2

To enhance healing of the spine:
√ Glucosamine with chondroitin 2 2
Glucosamine speeds healing of connective tissue injuries in the lung, spine and back, and reduces the likelihood of residual problems.
√ MSM (methylsulfonylmethane) 2 2
MSM also speeds up the healing of connective tissue injuries, including those in the back and lung, and reduces the likelihood of residual problems.

To reduce inflammatory reactions everywhere in the body, which, with the toxic load you are carrying from inhaled products of combustion, are many:
√ Inflammation Control 2 2

To enhance detoxification of toxic chemicals:
√ Garlic (Kyolic SGP) 2 2

For yeast/mold/fungus:
√ Sporanox 100 mg 1 0
Continue until we decide to stop.
√ Avoid sugars and all sugar containing foods, alcohol, white flour, limit fruit and only less sweet fruit.

Green Food:
√ SuperGreens as directed

Timothy J. Smith, M.D.

2635 Regent Street
Berkeley, CA 94704
Voice: (510) 548-8022
Fax: (510) 843-9998

LABORATORY TEST ORDER

NAME Douglas Copp

DATE 1/20/03

Please fax results to patient at 1-505-281-7877

DIAGNOSIS

World Trade Center Respiratory and Systemic Toxicity Syndrome; hypothyroidism

- ☛ THYROID STIMULATING HORMONE (HIGH SENSITIVITY)
- ☛ PREGNENOLONE, SERUM
- ☛ DHEA-S, SERUM (Ideal levels: Male: 450-800; Female 300-500 mcg/ml)

T. Smith, M.D.

TIMOTHY J. SMITH, M.D.
2635 REGENT STREET
BERKELEY, CALIFORNIA 94704
TELEPHONE (510) 548-8022

February 24, 2003

Re: Doug Copp

Dear Mr. Purcell:

The following communication is in response to your request for information regarding Mr. Doug Copp. Specifically, it addresses the requirement that recipients have had at least one week of hospitalization to qualify for 9/11 Fund advanced medical benefits.

I would offer the following information:

Although it is true that Mr. Copp has not been hospitalized continuously for one full week, the total amount of time he has spent receiving treatment in hospitals and doctor's offices for 9/11 related injuries has far exceeded that time.

Mr. Copp's initial treatment was inappropriate and delays in receiving proper care precluded hospitalization. I.e., if he had received prompt and appropriate care soon after his injuries, he would have been hospitalized for at least one week.

The general trend in managed medical care has been to do as much as possible on an outpatient basis and then do intensive follow-up from home. Mr. Copp was encouraged follow this approach. Also, when presented with the option of inpatient care, he opted for outpatient care for financial reasons. He was unable to work because of his injuries, and had no source of funds to afford an expensive inpatient experience.

Mr. Copp is being evaluated by neurosurgeons for spinal surgery (to repair damaged lumbar vertebrae injured during his rescue work in the subway system six floors below the World Trade Center) and this intervention will definitely require at least one week of hospitalization.

If I may be of further assistance in evaluating this patient, please contact me.

Sincerely,

Timothy J. Smith, M.D.

Timothy J. Smith, M.D.

TriCore Reference Laboratories
2811 Stanford N.E. Albuquerque, NM 87107 (505) 938-8922

TriCore ASO
Unlisted Provider
2811 Stanford
Albuquerque, NM 87107

PATIENT NAME
COPP, DOUGLAS F
PHYSICIAN
Unlisted Physician,
REQUISITION NO PT PHONE NO LAB REF NO.
3171402 **281-7977**

PATIENT ID **X046461692** DOB **08/03/1951** SEX **M** STATUS **Final**
COLLECT DATE & TIME **04/01/2003 14:30 (a)**
DATE OF SERVICE **04/01/2003 15:39**
PRINT DATE/TIME **04/14/2003 16:25**

COMMENTS: RESULTS TO TIMOTHY J SMITH MD AT 2635 REGENT (Continued)...

TEST	Result In Range	Result Out of Range	Units	Reference Range	Site Code
...ST BERKELEY CA 94704 // T20756:- 99928 POLYCHLORINATED BIPHENYL (ARUP)					

Misc Referral Test Collected on: 04/01/2003 14:30

Test Name: PREGNENOLONE

Result: < 20 ng/dL

(NOTE)
REFERENCE RANGE: < 20 - 150 ng/dL
Pubertal and Adults
Please refer to the Pregnenolone report for additional information.

Test performed by: Performed at Esoterix, Inc., 4301 Lost Hills Road, Calabasas, CA 91301

Test Name: POLYCHLORINATED BIPHENYL

Result: 3.9 PPB

(NOTE)
Based on Arochlor 1260.
General Population: up to 30 PPB.
Average: 5 PPB
Analysis by Gas Chromatography (GC).

Test performed by: Performed at National Medical Services, 3701 Welsh Road, Willow Grove, PA 19090

Performing Labs
AR: Performed at ARUP Laboratories, Inc, 500 Chipeta Way, Salt Lake City, UT

End of Report

Urgent

Attention: Veronica

January 28, 2003

Dear Dr. Weinstein:

This morning I spoke with Dr. Mitch Berger and presented a thumbnail sketch of this very interesting patient. He suggested that Mr. Copp see you. I therefore wish to refer Mr. Doug Copp to you for evaluation of his back problems and possible surgical intervention.

Mr. Copp injured his back while serving as leader of the American Rescue Team in the World Trade Center collapse.

I am attaching a report I prepared for this patient.

The most expedient way to reach me is at 707-823-6161.

Thank you in advance for your kind attention to this very deserving patient.

Sincerely,

Timothy J. Smith. M.D.

UCSF Medical Center

438-77-17-8 08/03/1951
Copp, Douglas

DEPARTMENT OF NEUROLOGICAL SURGERY

400 Parnassus Avenue
Eighth Floor, Box 0350
San Francisco, California 94143-0350

Tel: (415) 353-7500 Fax: (415) 353-2889

NEUROSPINAL DISORDERS PROGRAM

February 13, 2003

Henry Garcia, M.D.
8800 Montgomery
Albuquerque, NM 87111

RE: COPP, DOUGLAS
U#: 43877178
DATE OF SERVICE: 02/13/03

Dear Dr. Garcia:

We saw Mr. Douglas Copp in our clinic this afternoon. He is a 52-year-old gentleman who comes in after apparently suffering an injury during a rescue attempt after the World Trade Center disaster.

He claims that at that time, he fell down a slab and began experiencing horrible back pain. He also lists other medical issues including a build up of "toxic material" in his blood. He also claims to have multiple "fungal infections" of his lungs after this disaster. In any event, his consultation with the Spine Surgery Service is for back pain.

The back pain is centered in the middle of his back. It does not radiate at all down either extremity. He does have a complaint of nonspecific numbness down his leg. This numbness is down his left leg and involves mainly the posterior lateral aspect of his left leg, down into his foot. He has no numbness of his toes, however. He does not report any weakness. He does have multiple complaints in terms of his ability to concentrate as well as his speech issues. He claims that his physicians have told him that he has "brain attacks". He apparently also has an appointment scheduled with a "toxic specialist" at UCSF.

ADDITIONAL COPY

On his neurological exam, he had 5/5 strength of his lower extremities. He had 2+ reflexes with downgoing toes bilaterally. He had no Babinski responses. His sensory exam was nonspecific and included patchy areas of numbness of his left leg as well as his left foot. He also had some patchy numbness over his right foot. This did not follow any dermatomal distribution. He did not have any ten level that I could document.

We reviewed his MRI study which revealed an ossified disk over the facet on the left side of L5-S1. It is unclear what is the etiology of this gentleman's numbness of his left lower extremity. We do not feel that this small, calcified fragment should be responsible for this numbness. It certainly is not causing him a radiculopathy as he has no pain at all down his left lower extremity. We also do not have a good explanation for his "brain attacks" which he describes where he feels that he is disassociated from his environment and has difficulty with speech during that time period.

We have given him a referral to a neurologist in order to work this up further. In particular, we would want them to rule out any possibility of any seizure disorder.

Thank you for this kind referral.

Sincerely,

GRAHAM J. MOUW, M.D.

Philip R Weinstein MD

PHILIP R. WEINSTEIN, M.D.
PROFESSOR

EXTRA COPIES:

Timothy Smith, M.D.
2635 Regent Street
Berkeley, CA 94704

CARBON COPIES:

DICTATED BY: Graham J Mouw, MD 45019

D: 02/13/2003 4:48 P
T: 02/14/2003 10:54 A a17 CS#: 521069

ADDITIONAL COPY

TriCore Reference Laboratories
2311 Stanford N.E. Albuquerque, NM 87107 (505) 938-8922

TriCore ASO
Unlisted Provider
2811 Stanford
Albuquerque, NM 87107

PATIENT NAME: COPP, DOUGLAS F
PHYSICIAN: Unlisted Physician,
PATIENT ID: X046461692 | DOB: 08/03/1951 | SEX: M | STATUS: Final
COLLECT DATE & TIME: 04/01/2003 14:30 (a)
DATE OF SERVICE: 04/01/2003 15:39
PRINT DATE/TIME: 04/14/2003 16:25
PAGE: 1
REQUISITION NO: 3171402 | PT PHONE NO: 281-7977 | LAB REF NO:
COMMENTS: RESULTS TO TIMOTHY J SMITH MD AT 2635 REGENT (Continued)...

TEST	Result: In Range	Result: Out of Range	Units	Reference Range	Site Code
...ST BERKELEY CA 94704 // T20756:- 99928 POLYCHLORINATED BIPHENYL (ARUP)					

---Footnotes---
(a) Multiple collection dates and times apply to tests on this order.

Collected on: 04/01/2003 14:30
DHEA-Sulfate — 341 — ug/dL — 80-560

Collected on: 04/01/2003 14:30
TSH — 1.490 — uIU/mL — 0.40-4.5
- All TSH values less than 0.400 uIU/mL represent 3rd Generation TSH.
- No extra charges apply.

Collected on: 04/01/2003 14:30
148 AR
Reference range: 90 to 360
Unit: ng/mL
(NOTE)
REFERENCE INTERVAL: IGF-1 (Insulin-Like Growth I)

AGE	MALE	FEMALE
2 mos-5 yrs	17-248 ng/mL	17-248 ng/mL
5-8 yrs	88-474 ng/mL	88-474 ng/mL
9-11 yrs	110-565 ng/mL	117-771 ng/mL
12-15 yrs	202-957 ng/mL	261-1096 ng/mL
16-24 yrs	182-780 ng/mL	182-780 ng/mL
25-39 yrs	114-492 ng/mL	114-492 ng/mL
40-54 yrs	90-360 ng/mL	90-360 ng/mL
55 yrs and over	71-290 ng/mL	71-290 ng/mL

Values by Tanner Stage:

TANNER STAGE	MALE	FEMALE
I	109-485 ng/mL	129-470 ng/mL
II	174-812 ng/mL	186-695 ng/mL
III	230-818 ng/mL	292-883 ng/mL
IV	396-775 ng/mL	394-920 ng/mL
V	402-839 ng/mL	308-1138 ng/mL

sc Referral Test Collected on: 04/01/2003 14:16
Test Name: DIOXANE 1,4 (DIOXAN) QUANTITATION, SERUM
Result: NONE DETECTED
(NOTE)
Rep. Limit = 1.0 mcg/mL
Following a 6 hour exposure to 50 PPM Dioxane, steady state plasma levels averaged 12 mcg/mL.
Analysis by Gas Chromatography (GC).
Test performed by: Performed at National Medical Services, 3701 Welsh Road, Willow Grove, PA 19090

500 Chipeta Way. Salt Lake City, Utah 84108
Edward R. Ashwood, M.D. Laboratory Director

COPP, DOUGLAS F
(10298)X046461692
Male 51 years 03 Aug 1951
Primary Clinician:
Acc. #: T20756

TRI-CORE Reference Lab
2811 Stanford Drive N.E.
Albuquerque, NM 87107

Reported on: 07 Apr 2003 12:46 PM

ORDERED TEST	RESULT	UNITS	RESULT FLAG	REFERENCE INTERVAL

Accession #: 0309211681
Collected on: 01 Apr 2003 02:30 PM

POLYCHLORINATED BIPHENYLS @ SEE NOTE
PCB'S PANEL, SERUM

Analyte	Results	Units	Rep. Limit
PCB'S (POLYCHLORINATED BIPHENYLS)	3.9	PPB	

BASED ON AROCHLOR 1260.
GENERAL POPULATION: UP TO 30 PPB.
AVERAGE: 6 PPB.
ANALYSIS BY GAS CHROMATOGRAPHY (GC).
Performed at: National Medical Service, 3701 Welch Road, Willow Grove, PA 19090

Client Comments:
SPECIMEN TYPE: S

Received on: 03 Apr 2003 10:12 AM Ordering Clinician: HA, BEN

POLYCHLORINATED BIPHENYLS performed at National Medical Service, 3701 Welch Road, Willow Grove, PA 19090

NATIONAL MEDICAL SERVICES
3701 Welsh Rd, PO Box 433A, Willow Grove, PA 19090-0437
(215)657-4900 Fax: (215)657-2972
e-mail: nms@nmslab.com
ROBERT A. MIDDLEBERG, PhD, DABFT, DABCC, Laboratory Director

CONFIDENTIAL Analysis Report

50292

TRI CORE REFERENCE LABORATORY
2811 STANFORD N.E.
ATTN:SEMCOUTS
ALBUQUERQUE NM US 87107

Date Received: 04/04/03

Date Reported: 04/07/03

Report Status: ** FINAL REPORT **

Control # 10067355

Name: COPP,DOUGLAS

I.D.: WS124

SPECIMEN COLLECTION
Date: 040103
Time: 1413

233755 4

Analyte	Specimen	Results	Units	Req.Limit	Reference Data/Comments
		1740 DIOXANE-1,4			
DIOXANE-1,4	SERUM	NONE DETECTED	MCG/ML	1.0	FOLLOWING A 6 HOUR EXPOSURE TO 50 PPM DIOXANE, STEADY STATE PLASMA LEVELS AVERAGED 12 MCG/ML. ANALYSIS BY GAS CHROMATOGRAPHY (GC).

call Copp re
tell him
no dioxan
on blood test
4-7-03 s/w Doug

(End of Report)

500 Chipeta Way, Salt Lake City, Utah 84108
Edward R. Ashwood, M.D. Laboratory Director

Final

PP, DOUGLAS F
J298)X046461692
Male 51 years 03 Aug 1951
Primary Clinician:
Acc. #: T20748

TRI-CORE Reference Lab
2911 Stanford Drive N.E.
Albuquerque, NM 87107

Reported on: 08 Apr 2003 11:00 PM

ORDERED TEST	RESULT	UNITS	RESULT FLAG	REFERENCE INTERVAL

Accession #: 0309211680
Collected on: 01 Apr 2003 02:30 PM

PREGNENOLONE @

TEST	RESULT	SEE NOTE UNIT
Pregnenolone, Serum*	<20	ng/dL

REFERENCE RANGE:

Age	Range
Premature (26 - 28w) Day 4	260 - 2104
Premature (34 - 36w) Day 4	203 - 1024
Neonates (1 - 7d)	150 - 2000
Prepubertal	20 - 140
Pubertal and Adults	Less than 20 - 150

Levels decrease after birth and are within the prepubertal range of 20 - 140 by 3 months.

*** ASR NOTE ***
This test was developed and its performance characteristics determined by Esoterix. It has not been cleared or approved by the U.S. Food and Drug Administration. The FDA has determined that such clearance or approval is not necessary. This test is used for clinical purposes. It should not be regarded as investigational or for research. This laboratory is regulated under the Clinical Laboratory Improvement Amendment of 1988 (CLIA) as qualified to perform high complexity clinical testing.
Note: The normal data shown are specific for the gender and age information provided. Additional normal data can frequently be found in our directory of services or can be obtained by calling the laboratory. This additional information includes data by pubertal stage, from pre-term infants, from special venous draw sites and from response testing. Unless indicated otherwise, normal serum or plasma data are from basal or baseline venous collections typically obtained in the morning following an 8-12 hour overnight fast. Urine normal data are usually from basal random or overnight collections.
Performed at: Esoterix Endocrine, 4301 Lost Hills Rd, Calabassas Hills, California 91301

Received on: 03 Apr 2003 08:10 AM Ordering Clinician: HA, BEN

PREGNENOLONE performed at Esoterix Endocrine, 4301 Lost Hills Rd, Calabassas Hills, California 91301

INVALID/MISSING ID #
PLEASE COMPLETE PA FORM
CORRECTLY W/ NAME, D.O.B
& CERTIFICATE #, & FAX BACK
PLEASE PRINT CLEARLY

APR 25 2003

(A) This is my ID#!!
Group ID# 15298003

Outpatient Prescription Drug
Prior Authorization of Benefits Form

CONFIDENTIAL PATIENT INFORMATION

FAX TO THE PRIOR AUTHORIZATION OF BENEFITS CENTER AT (888) 831-2243

Patient Name: Doug Copp
Patient ID #: [illegible]
Patient DOB: 8-2-51
Date of Rx: [illegible]
Signature of physician or provider: [signature] MD

Prescribing Physician: Dr. Timothy J. Smith
Physician DEA #: AS9423374
Physician Telephone: 510-548-8022
Physician FAX: 510-843-9998
Date Signed: 4-21-03

Please list medication requested: Sporanox 100mg
(One medication per request form)

Medical justification:

Physician specialty: Family Practice

Diagnosis: Fungal Infection of the Respiratory System: [illegible] lab results

Treatment failure: This is the drug of choice for this diagnosis.

Adverse event:

Other (please specify): Please see attached labwork!

If request is for anorexiants or weight loss drugs please indicate SM.

[illegible fine print]

PLEASE COPY FOR FUTURE USE

FAXED

Prescribed Medication Cost Estimate / Year

Medication	Dosage	Cost ($)	Cost/month ($)	Cost/Year ($)
Provigil 200mg	1x/day	84.29 (15 tabs)	188.58	2263.00
Levothyroid 0.025 mg	2x/day	22.99 (60 tabs)	22.99	276.00
Tiazac 180 mg	1x/day	46.99 (30 caps)	46.99	564.00
Sporanox 100mg	1x/day	529.99 (60 tabs)	264.95	3179.00
Diamox 500 mg	3x/day	48.99 (30 tabs)	146.97	1764.00
Advair 500/50 mcg		214.99 (ea)	429.98	5160.00
Xopenex 1.25 mg Nebulizer sol.		64.99 (72 ml)	257.96	3096.00
Albuterol Inhaler		20.99 (ea)	41.98	504.00
Intal Inhaler 14.2 mg		78.98 (ea)	78.98	948.00
Celluvisc eye drops		10.89 (ea)	100.00	1200.00
				$18,954.00

Cost per Year = $18,954.00

Projection of 25 Years = $ 473,850.00

415 927 2796