NT-proBNP
and
Some Other Stuff

Hank George, FALU

CONGRATULATIONS!

2017-2018 AHOU President

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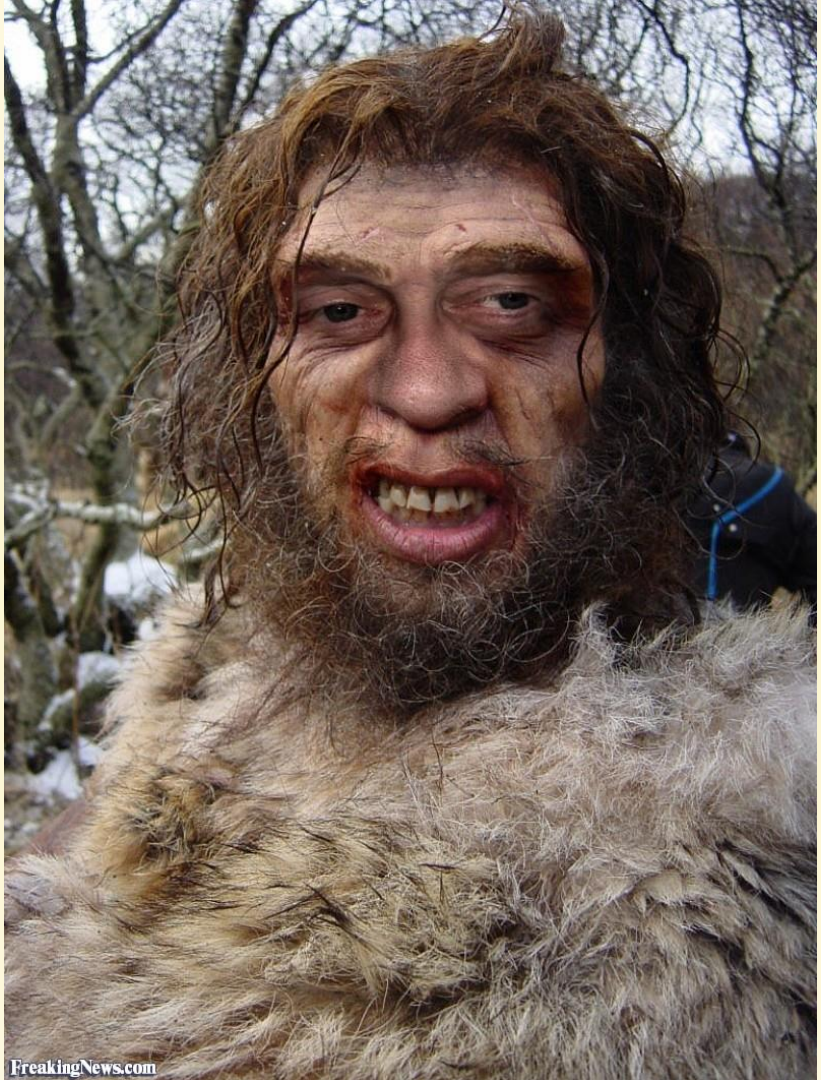
Northwestern Mutual


FreakingNews.com

☑ My paternal relatives come from Silesia

☑ My hat size is 8

☑ My barber charges me double!

☑ My shoe size is 10 ½ 6E

In September of 2007, I drove to Indianapolis to convince a room full of Roche Diagnostics MDs, PhDs and Marketing Executives to pay a lay person $50,000 to write a white paper – *without any editorial oversight* – on the merits of screening life insurance applicants with NT-proBNP.

When I told them how much money they would make…they said YES!

2008

An Underwriting Perspective on NT-proBNP, a Novel Marker for Cardiovascular Disease

2010

NT-proBNP: The Finest Cardiovascular Screening and Reflexive Test In the History of Life Underwriting

2014

NT-proBNP: Implications for Life and Morbidity Risk Underwriting

…and since the last white paper, we have reviewed every important new NT-proBNP study in Hot Notes.

Why?

Because NT-proBNP is the finest screening and reflexive test in the history of life insurance underwriting!

- NT-proBNP is a hormone secreted in response to increased cardiac mechanical load and wall stretch
- Blood levels increase when there are pathological changes incited by disorders directly or indirectly affecting the heart muscle and its chambers
- NT-proBNP is not DISEASE-specific
- It is ORGAN-specific

- NT-proBNP elevates in proportion to the extent of cardiac disease, being higher in CAD when the applicant has multivessel disease, unstable plaque or a substantial ischemic burden
- Its impact is *independent* of and *additive to* that all conventional CV risk factors
- A single elevated reading confers substantial excess mortality in asymptomatic applicants free of known or suspected circulatory disease

NT-proBNP is also a significant marker for…

- Cognitive dysfunction and MCI, independent of ApoE-4
- Post-exacerbation mortality in COPD
- CVD mortality in rheumatoid arthritis and SLE
- Cirrhosis and HCC in hepatitis B and C
- Cardiac cause of unexplained syncopal events
- Post-discharge mortality in community-acquired pneumonia

NT-proBNP is the IDEAL reflexive test for

- An ill-defined history of heart murmur
- Treated/untreated congenital heart disease in adults
- Adverse ECG and echo findings
- Potentially insurable MI survivors
- Abnormal ankle/brachial index
- Childhood/young adult cancer survivors treated with thoracic radiation or cardiotoxic chemotherapy (such as doxorubicin)

All underwriting manuals should have NT-proBNP reflexive testing guidelines

A mortality study by Mass Mutual, Swiss Re and CRL, presented at the 2015 AHOU, reported that NT-proBNP was an potent marker for excess risk at modestly elevated thresholds.

We have reviewed over 900 studies and 99% support this conclusion.

NT-proBNP should (and will) replace all ECG screening because it is:

- ☒ Less costly
- ☒ Never done improperly by paramedical technicians
- ☒ 100% objective
- ☒ INCREDIBLY more customer friendly

- NT-proBNP screening should start at age 55, at the lowest affordable face amount threshold.
- Any degree of elevation is incompatible with preferred risk.
- Debits should increase proportional to degree of elevation.
- NT-proBNP readings below the 50th percentile should get credits against debits for CV risk factors.

Cystatin C

Cystatin C is a protein produced by all nucleated cells.

It is superior to creatinine as a KFT in the elderly because it is unaffected by muscle mass loss.

It is superior to creatinine for calculating estimated glomerular filtration rate (e-GFR).

We did a cystatin C white paper in December, 2009 and a comprehensive update in April, 2016; both are posted at **www.insureintell.com**.

Why should we screen older age applicants with cystatin C?

- Most life insurers screen elderly applicants for decline in cognitive and/or physical function

- These tests are mainly done by paramedical technicians with little/no professional training, in difficult circumstances for achieving consistent and credible results

- They are our most customer-unfriendly screening tools and frankly speaking, an affront to insurance buyers

“Serum cystatin C has an important role in the prediction of cognitive decline.”

Wei Wei Chen, MD

European Review for Medical and Pharmacological Sciences

19(2015):2957

“Cystatin C was consistently associated with functional declines independent of other biomarkers.”

Anne B. Newman, MD
University of Pittsburgh Medical School
International Journal of Epidemiology
45(2016):1135

There is compelling evidence for addressing mortality and LTC morbidity risks from cognitive decline and physical frailty by screening with cystatin C, ideally in combination with NT-proBNP.

This means we can finally send Clock Drawing, Delayed Word Recall, Timed Get-Up & Go and Gait Speed to Underwriting Boot Hill.

Red Blood Cell Distribution Width

- RDW is largely worthless in anemia diagnosis
- Only **elevated** RDW matters
- It a major **RED FLAG** for excessive mortality and morbidity
- RDW joins hemoglobin (Hb) and mean corpuscular volume (MCV) as the 3 most valuable components of the CBC

Forget about fasting!

Focus on discouraging vigorous physical activity the day before a paramedical.

3 Final Thoughts

TIME TO MOVE ON FROM OUR ANGST OVER POT!

✓ There is **no excess mortality** in recreational marijuana use

✓ There is **no credible ba**sis for forcing marijuana users pay tobacco user premium rates

✓ **Preferred coverage** should be available to recreational marijuana users, including those using it medicinally for significant conditions such as back pain and glaucoma

Genomic Testing

- The FDA has approved the **23andMe** direct-to-consumer (DTC) genetic screening profile
- This would be far less of an issue if we were not blocked, by the Interstate Compact, from asking applicants about DTC tests
- The ACLI has a policy statement on genetic testing…but for whatever reason(s) it is not published
- At least 2 firms are gearing up to promote the use of genomic testing in underwriting

Mortality gains are our #1 source of profitability.

Inappropriate time constraints on APS review will inevitably and substantially increase our actual-to-expected mortality. This excess mortality will dwarf any operational expense savings.

Therefore, proponents of such constraints are a clear and present danger to our industry and our profession.

Thank you for the privilege of speaking at this WAHLU seminar.

May our profession live long and prosper!