Take-Home Points

1. Virtually every study shows substantial differences between Group A and Group B.
   a. Due to:
      1) The homogeneous phenotyping from the Factor case definition.
      2) The strategy for developing the imaging tests by targeting veterans' symptomatic deficits and the related brain regions.
   b. Suggests that brain imaging might explain most symptoms.
   c. Provides rich mosaic of evidence to explain mechanisms.

2. The evidence does not yet favor one mechanism
   a. White matter is clearly abnormal, but deep gray matter also abnormal
   b. Gray matter abnormalities appear bilaterally asymmetrical.
   c. White matter abnormality appears to involve myelin rather than axonal degeneration.

Take-Home Points

3. Besides explaining the specific deficits, the mosaic of evidence points to certain general findings:
   a. Structures activating during a task in Group B often do not activate in Group A, but other structures do
      1) Probably the brain's attempts to compensate for deficits
   b. The brain in Group A appears to be hyper-aroused and hyper-responsive to stimuli.
      1) The brain working hard to overcome deficits?
      2) May explain the chronic fatigue
      3) May explain the emotional lability and hyper-reactivity

4. Optimism that this multi-perspective testing protocol might lead to objective phenotyping and diagnosis
   a. For developing an objective diagnostic test protocol
   b. For providing homogeneous groups for clinical trials

Take-Home Points

5. Will these findings from the Seabees battalion generalize to the larger population of Gulf War veterans?
   a. The next phase of studies from the RTI national survey sample will answer this question.