Bowler, R., Hartney, C., Strongin, D., Muzio, S., & Tarango, S.
Visual Memory Function in Relation to MMPI-2 Validity Scale Scores Following Chemical Exposure.
Following an environmental chemical exposure to Catacarb from a refinery, seventy medical clinic patients who complained of memory problems and were subsequently referred for neuropsychological assessments completed the Rey 15-Item Visual Memory Test, Memory Assessment Scales (MAS), and MMPI-2. Of 59 participants remaining after appropriate exclusions (56% female, 66% White, mean age = 43.9 years, 68% at least some college), 43% were found to have visual memory impairment based on the MAS scores. Scores for the Rey total mean = 13.3, SD = 2.3; Rey rows mean = 4.3, SD = 0.9; MAS Visual Memory mean = 94, SD = 7.7; MMPI-2 Validity scale scores: L-scale mean T = 56.5, SD = 10.3; MMPI-2 F-scale mean T = 60.9, SD = 12.9, and K-scale mean T = 47.4, SD = 9.3. Reported correlations are adjusted for ethnicity and education. The Rey total and Rey rows correlated with the MAS Visual Memory Index (r = 0.39, p = .004 and r = 0.35, p = .001). MAS Visual Recognition Distractors correlated with MAS Visual Memory (r = 0.52, p = .0001), and the Rey total (r = 0.32, p = .017) but not the Rey rows. The Rey total correlated highly with Rey rows (r = 0.85, p = .0001). The Rey rows correlated with the MMPI-2 L-scale (r = 0.34, p = .01), but did not correlate with the F nor K scales. A Factor Analysis using Varimax rotation produced two factors, the first suggesting a Mental Concentration component and the second a Visual Memory component. These results suggest this cohort did not malinger poor performance on the tests and that there is a strong relationships between visual memory and performance on the Rey.

Bowler, R., Lloyd, K., Hartney, C., & Rauch, S.
Amnestic Disturbance and PTSD in the Aftermath of a Chemical Release.
Following an environmental chemical exposure to Catacarb from a refinery, 70 medical clinic patients who complained of memory problems and were subsequently referred for complete neuropsychological assessments including the WAIS-R, Memory Assessment Scales (MAS), Trails A & B, Stroop, COWAT, and Motor Tests. These patients were a subgroup of residents from a larger epidemiological study of the exposed town. The residents of this town (when compared to an unexposed town) were shown to suffer from adverse health effects with respiratory, dermatological, visual and mood disturbances. These patients also completed the Brief Symptom Inventory, Beck Depression Scale, Impact of Event Scale and MMPI-2. After appropriate exclusions, of fifty-nine participants (56% female, 66% White, mean age = 43.9 years, 68% at least some college), comparison of each patient’s score with the expanded Halstead Reitan Normative battery developed by Heaton et al. (1991) indicates significant impairment (p = 0.001) for the Trailmaking Tests, COWAT, Stroop Color and Color Word (but not for Word); and for Verbal IQ, Information, Digit Span, and Arithmetic. The patient group was very similar to the normative group used by Heaton et al. which suggests that the patients had impairment (p = 0.001) on information processing and cognitive flexibility and memory. The MAS scores (already adjusted for age and education) indicate impairment (at least 1 SD or more below their expected score) for Global Memory, Short term, Verbal and Visual Memory (p = 0.0001). Scores on the MMPI-2 indicate elevations on 1, 3, 2, 8, and 7, similar to profiles of medical and neurotoxicant exposed patients. Validity scale scores indicate valid profiles. Scores on Keane’s PTSD-Pk Scale and the IES and clinical diagnoses indicate 54% of this sample suffer from PTSD. All scores will be presented in graphs and tables. Scores on the tests of cognitive function and clinical diagnoses resulted in 57% Cognitive Disturbance DSM-IV diagnoses. Chemical accidents and releases have increased and the neuropsychologist is frequently called upon to evaluate such patients. This current