Amazium Systems HyperSearch Demo --- User's Quick Start Guide

This demo has two aspects, the application data and the processing.

First Aspect The fully functional application for chronic pain evaluation finds tests which are statistically or historically shown to be the best first test(s) for a group of symptoms. This particular demo associates a given diagnosis with a group of symptoms and displays the statistics indicating the historical and possible relevant outcomes of any of the 110 or so tests.

The data set is comprised of a questionnaire which has approximately 2,100 yes or no questions about a patient's pain. About 1,000 patients submitted their responses. If a response was left blank, it is a non-symptom. Associated with each patient are statistics about the tests that were performed during the diagnostics of their chronic pain. These 110 tests were rated and displayed as shown. Severe, green, indicating that there was a clear positive result in the test; Mild, orange, showing some indication; Weak, yellow; and No indication, red.

A user first selects a diagnosis, and then selects the relevant symptoms. Once all the symptoms are selected, the data for the selected symptoms are aggregated and displayed.

Second Aspect. The underlying processing and the data organization. The application actually has approximately 800 million data points built into the executable program. No database or external files are required - it is totally self contained in the 2.7 megabyte program.

HyperSearch is based on simple ideas. Why use a database for static data or data that is not going to change? Secondly why use a database to solve a problem if you already have the answer?

The most important part of the Large Array Logic approach is that the data is the only component to the answer. No formulas. No algorithms. No skewing or normalizations which distort results. No SQL. Most importantly, no wasted time. It takes a few milliseconds on your PC to tally up one symptom. Five symptoms take five times as long. Ten, ten times as long, and so on. With SQL database solutions the time increases exponentially which explains why those solutions take hours. Baylytica takes a few hundredths of a second.

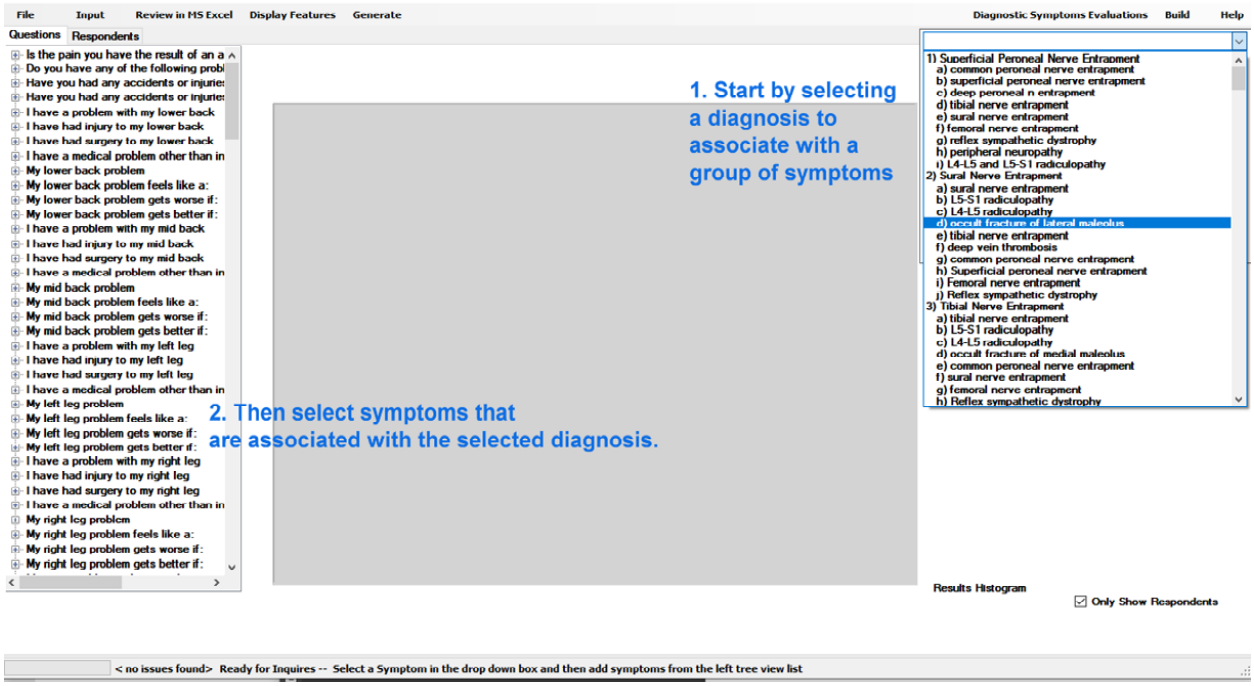
The ability to determine the relative values of tests for a given symptom set saves time, money, and, most importantly, improves overall care for a patient for whom the diagnosis has been a random process.

Evaluating data as pure data and with no bias, skewing, or unwarranted manipulation is really the only way to go. Doing it almost instantly is a real step forward.

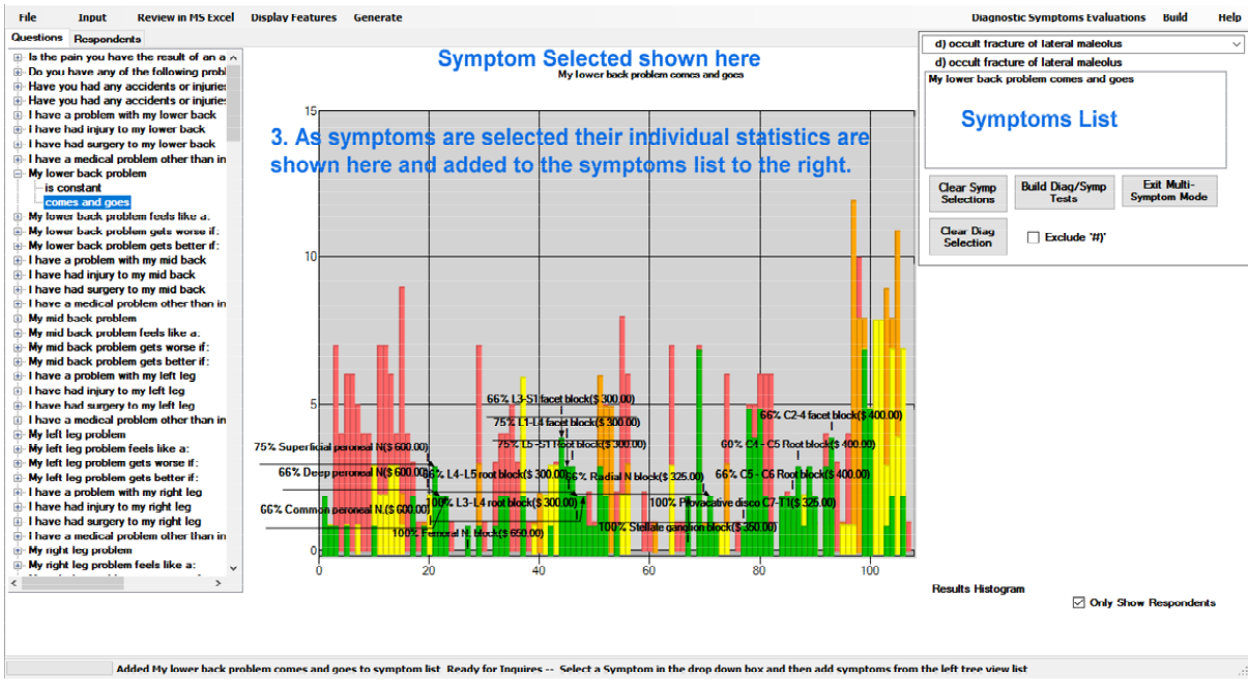
But see for yourself ….

Open AmaziumSystemsHyperSearchDemo.exe

It will take a few seconds as the program builds its internal tables. Then the screen looks like the image below. For demo purposes, start by selecting a diagnosis at random in the list box on the right.

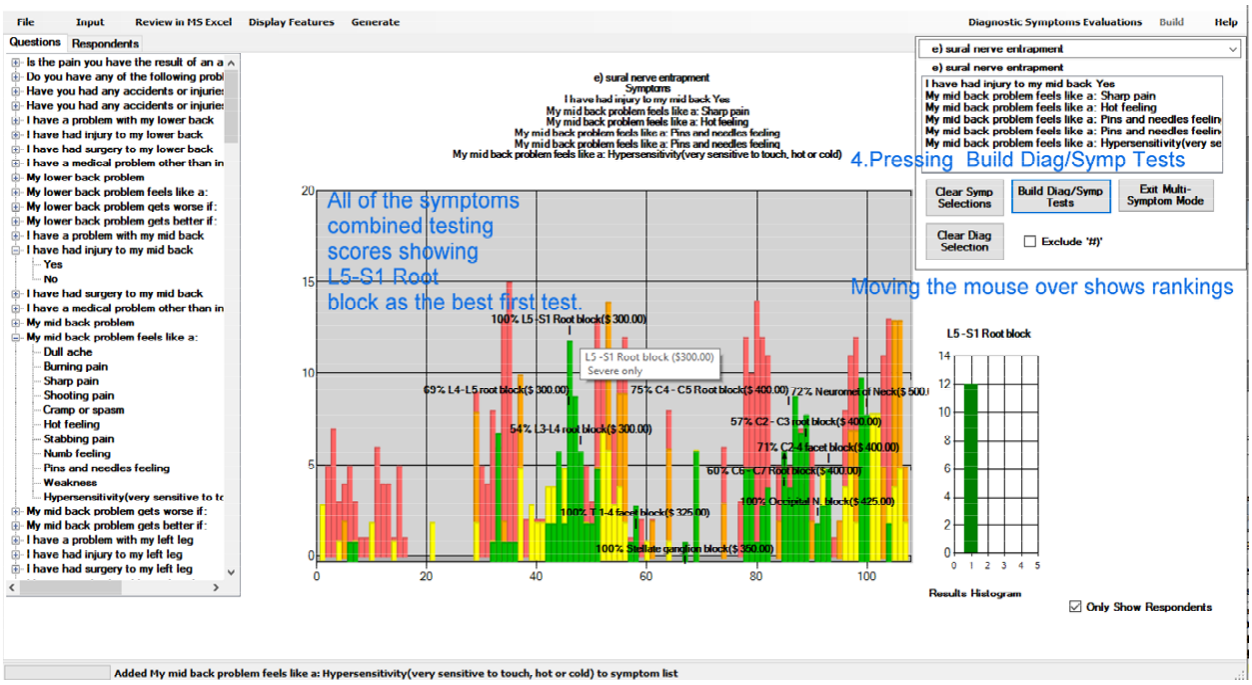


Then, from the tree list on the left below, expand and select some symptoms. The individual symptom aggregates are displayed and are added in the Symptoms List box on the right below.



By continuing to add symptoms for a given diagnosis, the symptoms are added to the list, as shown in the next image below.

When the user clicks “Build Diag/Symp Tests”, the individual results are aggregated together and the ranking is displayed. In this case, the L5 S1 Nerve Block is the most severe or revealing. It must be noted that this 100% value is only a result of the random chance selection for this paper, as well as the random selection of the diagnosis for demo purposes.



Moving the mouse over a test will show the Severe, Mild, Weak and Non-Indicating rankings of the results with given symptoms.

To see the 2,100 questions, the user selects the “Input” menu item. For this aspect of the work flow, there is no actual input and the pages of forms are only presented for reference. All of the responses and associated data are built into the program. An Excel report can be generated by clicking the “Review in MS Excel” menu item.

In this particular example the data is somewhat subjective, but really no more subjective and problematic than an office visit. Of course a 30 minute office visit does not afford all the possibilities and the occasion to reflect on responses unfettered by a strange environment and circumstances

Hypersearch functions to aggregate and correlate the data so an educated decision can be made a quickly.