data to identify potential toxic sources and exposures. This is by far the most difficult aspect of the intake, one which requires time and diligence. The more experience a practitioner has in managing complicated toxicity-based cases, the more robust the line of questioning. To evaluate the impact of the patient's environment, the provider must learn as much as possible about the patient's exposures, particularly any type of environmental exposure that could be compromising health.

One of the most efficient tools I've seen for these assessments is the TEQ (Toxin Exposure Questionnaire) developed for the IFM Advanced Practice Detox Module. The TEQ is an in-depth survey of the patient's background and history to identify exposures (past or present) in the home, workplace, or community. The questionnaire also explores hobbies and personal habits that may involve a toxicant. This type of analysis has the potential to open a direction of inquiry that could ultimately resolve the patient's condition. Identifying the primary causes of disease, while uncovering significant details related to exposures and personal detoxification capacity, are the challenges both the patient and doctor face as they move toward becoming more effective medical detectives.

A Personal Note

When my husband and I were ready to begin our family, we bought a plot of land in the country with the idea of settling in a clean environment to raise our kids. We chose a beautiful place with lakes and trees in a forested area of central Minnesota. When I did a search on my zip code at Scorecard.org, a pollution information site, I identified the most common toxicant risks in our area, which led us to do a more robust assessment of our well water. Due to the increased agricultural activity in the area, our water source has the presence of lead, as well as an iron-loving fungus. Some of the abnormalities in the water sample were most likely linked to the presence of local pesticides and herbicides impacting the ecosystem of our well water. I've carried three pregnancies since we moved to this property, so I'm deeply concerned about the development of my little ones and have taken additional precautions to minimize their further exposures now that they are all in preschool and grade school. It was a significant disappointment to realize that there are so few places left that have low toxic exposure levels.

Lab Work

Testing for environmental toxins. In order to check for specific chemicals and toxins, Metametrix provides a series of panels in serum or whole blood that practitioners can use to effectively identify increased toxicant levels. One of their more common panels includes assessments for whole PCBs and volatile solvents; persistent organophosphates (which have been directly linked to diabetes); herbicides and pesticides, including chlorinated pesticides such as DDT, HCB (hexachlorobenzene), and other commonly used agricultural chemicals. Patients who grew up on a farm or who live near a farming community are good candidates for this type of testing if they are symptomatic. These panels are among the most up-to-date evaluations available for assessing risks and needs for personalized detox.

Metametrix also provides testing for phthalates, parabens, and BPA in urine. Most of us are exposed to these compounds in small amounts on a constant basis. As a result, we may be unaware of the body's tipping point – the level at which the overall body burden can begin to cause chronic irritation and oxidative stress, resulting in symptom expression. Few people are fully aware of the extent of these toxic exposures. Few realize, for example, that women on average apply more than 120 different chemicals on their skin before they leave the house in the morning (due to compounds contained in their personal care products) or that the number one source of BPA exposure occurs when we touch printed receipts.

Heavy metals can also be an important factor, and additional tests for the presence of heavy metals are an option, especially if the onset of symptoms includes neurologic issues such as mild tremors, paresthesias or mild numbness, intermittent or transient pain syndromes, or petit mal or grand mal seizures. Not all patients can be tested for heavy metals. Assessing for an immunologic reaction to metals through MELISA (Memory Lymphocyte Immunostimulation Assay) can inform the work of functional dentists and practitioners who want a more comprehensive dental assessment to determine if the oral cavity is contributing in any way to the toxic load. The test also provides information useful in deciding if existing amalgams can be safely removed, and whether oral or IV chelation therapy may be indicated to support personal detoxification.

Evaluating liver function. A hepatic panel is still considered relevant in identifying the status of principle liver enzymes. Even high normal values will be of concern to the practitioner. When assessing patients I often request testing for an additional biomarker for toxicity: the liver enzyme termed GGT (gamma-glutamyl transpeptidase). When elevated, this enzyme helps to identify a higher demand for glutathione due to excessive exposure to toxins or lifelong accumulation of toxicants. These can include over-the-counter and prescription drugs, alcohol and other habitual substances, environmental compounds, and xenobiotics. Research has shown that patients who are obese with high normal levels of GGT (between 40 and 60, depending on the reference range) may be experiencing an increased ➤