



A Functional Approach to Fertility

By Terry Wingo, Pharmacist

From a functional perspective our health is the product of the interaction between our genes (genetic predisposition for particular responses) and our environment (biochemically, what we eat or drink or breathe). If we accept, as I do, the concept that we are designed to be healthy and self repairing, then we must recognize that our bodies are constantly working to restore optimal health regardless of the degree of imbalance we may be experiencing. Optimal health requires optimal biochemical function; less than optimal biochemical function always results in impairment in health. We can view infertility as an expression of relative imbalance in our biochemical energy processes- simply put, if the prospective mother's health is inadequate to allow mother and baby to successfully complete a pregnancy then her body will conspire against her desire. Biochemically we are programmed for survival, and carrying a baby to term requires far more resources than any other time in a woman's life.

For sperm and egg to meet, for a fertilized egg to safely implant in the endometrial lining of the uterus, and for the developing fetus to survive the complete gestational process requires complex orchestration of functional systems. The pituitary gland must release follicle stimulating hormone and luteinizing hormone in the proper amounts at the proper time, ovarian follicles must mature adequately and release the egg at the appropriate time in the cycle, the corpus luteum must produce enough progesterone to stimulate differentiation in proliferative endometrial cells to allow implantation, the fallopian tubes must allow unrestricted descent of the egg to the uterus, changes in cervical mucous must be properly timed to facilitate passage of sperm rather than restricting access...and that's just the first few hours. We still must maintain adequate nutritional and immune status for the developing baby to safely grow to term.

There are specific issues that may impair this process (examples: low body fat percentage inhibits ovulation, gluten intolerance may result in infertility) but the overall process is regulated by the interplay of endocrine hormones. Ovarian hormones (estrogens, progesterone, testosterone), insulin and glucagons, adrenal hormones (cortisol, DHEA, pregnenolone), and thyroid hormones all serve to interregulate each other and each exerts control over functional systems necessary for fertility. Common areas of imbalance include impaired estrogen metabolism, impaired progesterone production, excessive insulin levels, excessive or inadequate cortisol production, dysregulation of thyroid hormone conversion, and impaired thyroid hormone receptor response, as well as the relative nutritional deficits that lead to these endocrine imbalances. The scope of this article prevents greater depth of discussion of the mechanisms involved, but supporting normal biochemical processes usually allows the body to restore normal balance and regulation.

To allow the body to begin the restoration process we must start with dietary choices that support biochemical balance rather than those that lead to disruption of health. We require adequate quality protein, high levels of omega-3 monounsaturated fatty acids, appropriate carbohydrate sources, calcium and magnesium in balance, trace minerals, and vitamins and other micronutrients in optimum levels. The lifestyle diet that best addresses our health restoration needs includes lean meats, poultry, fish, and eggs, non-starchy vegetables in as broad a variety as possible, a variety of whole fruits, and raw tree nuts. Fresh or frozen, free range and organic if possible, these food choices maximize our nutritional needs and help restore endocrine balance. We should work equally hard to eliminate or at least minimize foods that challenge health management. These foods to avoid include dairy products, cereal

grains, grain products such as breads, other starches, and all processed foods and sugars. A good discussion and explanation of this model is found in the book *The Paleo Diet* by Loren Cordain, PhD.

In addition to dietary changes, intervention with nutritional agents may be used to reduce excessive insulin response, balance estrogens and progesterone, strengthen adrenal capacity, inhibit excessive cortisol release, and improve thyroid hormone utilization. This intervention might include a therapeutic multivitamin or B-complex, vitamin C, vitamin E, a balanced calcium/magnesium product, a refined cod liver oil or other fish oil, chromium, iodine, selenium, and zinc. Homeopathic complexes designed to regulate menstrual cycles may be useful and certain herbals or plant extracts are sometimes beneficial. Many women find transdermal micronized progesterone to be beneficial in restoring normal cycles when used in appropriate doses and appropriate cycle timing. Regimens for nutritional intervention should be chosen for each individual separately; biochemical individuality dictates that we must balance for specific needs.

Nature knows what she is doing. It can be very difficult to force the body to accomplish something beyond its functional capacity, but limits to our capacity can often be changed. Try improving your diet, get routine moderate exercise and plenty of rest, work with a knowledgeable professional to design an appropriate regimen for intervention, and relax. Medical intervention techniques for infertility can be extremely expensive, may be painful or otherwise distressing, and are often unsuccessful. If we work to prepare the body to support a possible pregnancy, we may just find those intervention techniques to be unnecessary as well...