



ANOPHTHALMIA, MICROPHTHALMIA, AND FACIAL DEVELOPMENT

From conception to birth, the development of a new life is both miraculous and extraordinarily complicated. A new being, however, is not created in a flash. Instead, there is a long series of steps, each followed by another.

If you wish to hike from the bottom to the top of a mountain, no matter which path you follow, eventually you will arrive at the top. Yet each step that you take has a direct impact on the length and direction of the next step, and depending on the path taken, you may arrive at the top slower if the path was wandering, with wet feet if a small stream was crossed, with a lightly scratched arm if a bush or tree got too close, or with a sunburn if no shade was chosen. Each step impacts the next, and the final result might be different for everyone.

Facial development is the same. Each developmental step impacts the next, and some people are surprised to discover that the journey does not end in nine months but continues beyond birth until death. Throughout life, the face changes, not just the skin and the underlying muscles and fat, but the bones of the skull and face change as well.

Anophthalmia (an-op-thal-me-ah) is the absence of an eye. A person born with anophthalmia typically has one eye on the side of the face where it should be, but the other eye is simply missing. Since one step impacts the next, without an eye being present the eyelids on that side of the face are very poorly formed or not formed at all, and there may be just flat skin where an eye normally sits. The problem, however, is that an eye is required for the bone eye socket around the eye to develop normally, and a normal eye socket is required for the cheek bone to develop normally, and a normal cheek bone is required for the jaw bone and jaw joint to develop normally. So, untreated, the absence of an eye often results in malformation of the jaw which can lead to constant pain with chewing, facial asymmetry, and on-going major dental problems.

Although we can't yet implant a working eye, we can implant living tissue (most often fat) into the eye socket, and this growing tissue "fools" the eye socket into believing there is a normal, growing eye and stimulates normal facial development. Fat grafting within the first couple of months of life often leads to essentially normal facial development.

Microphthalmia (mick-rop-thal-mia) is an eye that is much smaller than a normal eye and generally has no possibility for functional vision, especially if there is a cyst which commonly protrudes out the back of a microphthalmic eye. The eyelids overlying a microphthalmic eye are often fairly normal. If the Microphthalmia with cyst is enough living tissue to stimulate the bone eye socket to grow, then no fat grafting is necessary. However, if there is evidence of delayed eye socket development, a fat graft over the top of the microphthalmic eye may be indicated to prevent jaw malformation.

In most cases of anophthalmia or microphthalmia, the use of a conformer (similar to a very thick contact lens) or a prosthetic eye will help with eyelid growth and development. The earlier the conformer or prosthetic eye is placed, the better.