



WHAT IS CONSANGUINITY?

“Consanguinity” comes from two Latin words con: which means shared and sanguinis: meaning blood. Consanguinity describes a relationship between 2 people who are related to each other because they share a common ancestor. The most common form of consanguineous relationship is between first cousins.

WHAT ARE THE CONCERNS IF TWO PEOPLE IN A RELATIONSHIP ARE RELATED ?

Consanguineous relationships may or may not be part of cultural tradition. These relationships are only of concern if the couple have or are planning to have children.

All couples have a 2-3 % risk of having a child with a recognizable problem or anomaly seen at the time of birth. The more closely 2 people are related, the more genes they share. This further increases the chance of having a baby with health or developmental problems directly related to their shared inherited genetic information.

WHY ARE THE CHILDREN OF RELATED PARENTS AT RISK FOR GENETIC PROBLEMS?

It is estimated that we all have approximately 35,000 pairs of genes in every cell of our body. We receive one copy of the gene pair from our mother and the other from our father. These gene pairs are responsible for our general health and development. Everyone carries several single genes that have been changed or mutated in some way. Because the genes are

always paired, these gene changes rarely affect us – the normal gene in the pair overrides the faulty gene.

One of the types of changed genes is called a recessive or hidden gene and it is this type of gene change that is of concern when parents are related. Problems arise if an individual has received a double dose of the same changed gene - a copy of a same change from each of his/her parents. Another concern that there may be an increased risk for multifactorial conditions such as spina bifida and some congenital heart defects in consanguineous relationships. Multifactorial conditions are felt to be caused by both genetic and environmental factors.

If you and your partner are related and are considering parenthood, it is important that you seek genetic counselling. Some consanguineous relationships are complex and require expertise to estimate any possible risk. In situations where a known disorder exists in a family, it may be possible to determine whether either or both partners are carriers of the changed gene.

1st degree: parent/child brother/sister	share ½ of their genes
2nd degree: brother/half-sister uncle/niece double 1 st cousins	share ¼ of their genes
3rd degree: first cousins half uncle/niece	share ⅛ of their genes
5th degree: 2 nd cousins	share 1/32 of their genes

It is important to be aware that every pregnant couple in the general population has a 2-3% risk of having a baby with a birth defect. While normal results of prenatal testing are reassuring, they do not guarantee the birth of a healthy baby.

