Dr. Stan Riddell is a world leader in developing immunotherapies, which harness the power of the immune system to fight cancers and dangerous infections. His research focuses on detailing the complex biology of immune cells called T cells and pioneering therapies that use genetically reprogrammed T cells to specifically recognize and destroy diseased cells. These therapeutic T cells zero in on specific protein targets known as antigens, using either natural molecules called T-cell receptors or synthetic molecules called chimeric antigen receptors. Chimeric antigen receptors, also known as CARs, combine elements from T-cell receptors and from other immune cell-produced antibody molecules. His team's breakthroughs are helping researchers make progress for patients who need better therapies.