Can the sun damage my DNA?

The simple answer is- yes. The sun gives off powerful rays which causes changes in the world around. We appreciate the light and brightness given each morning but we often do not see visibly some of the harmful effects of the sun.

Ultraviolet (UV) radiation can cause damage to the surrounds including the skin. There are two main components of UV radiation which cause major changes to the skin. UVA is sometimes called ‘aging rays’ since they penetrate deeply into the skin and damage the middle layer of the skin called the dermis. This change in the dermis leads to a loss of volume in the skin and thus the outer layer of the skin folds over and causes shadows which are seen as wrinkles.

The sun also sends of UVB rays which are also termed ‘burning rays’ because this ray can causes a sunburn when we stay in the sun too long.

Studies now indicate the UV rays from the sun can damage the cells of the skin. The damage can be related to a variety of steps but the concerning aspect is the effect on the cellular DNA. It is through DNA alterations many skin cancers can arise. Thus excessive lifetime exposure or short term high intensity recreational exposure can lead to harmful long term damage to the skin cells. If this is not corrected by the body’s repair mechanisms cells may convert into precancer or cancer cells. Thus the concern with excess sun exposure is often the development of skin cancer, primarily basal cell carcinoma and squamous cell carcinoma.

The damage to the DNA or the DNA repair mechanisms are thus extremely important to the skin health. The best thing we can do to prevent skin cancer is to limit our exposure to the sun. Daily sunscreen can reduce the long term damage of the skin. Also avoiding short term high intensity sun exposure and sunburns can help. Make sure you are protecting your skin as often as possible and you will reduce your risk of skin cancer.