Definition of DNA Repair DNA repair refers to a collection of processes by which a cell identifies and corrects damage to its DNA molecules.It involves the alignment of the broken DNA ends with the homologous sequence, followed by strand invasion and synthesis.DNA can be damaged by various factors including environmental agents (like UV light, chemicals), normal metabolic processes, and errors that occur during DNA replication.o Repair of Damage Caused by UV Light UV light can induce the formation of pyrimidine dimers (most commonly thymine dimers), which distort the DNA helix.Repair mechanisms include: - **Nucleotide Excision Repair (NER)**: As mentioned, NER is the primary mechanism for repairing UV-induced damage.**Homologous Recombination (HR)**: This is a more accurate repair mechanism that requires a homologous sequence (usually a sister chromatid) as a template for repair.Types of DNA Repair o Nucleotide Excision Repair (NER) Nucleotide excision repair is a mechanism that removes a wide range of DNA lesions, including those caused by UV light and chemical exposure.o Base Excision Repair (BER) Base excision repair is a repair pathway that .specifically corrects small, non-helix-distorting base lesions.The process involves: 1.2.3.4.2.3.4.2