Attachment can lead to adhesion, and the two are different but related concepts. Attachment is a physical activity; as bacteria approach a surface, cell appendages (such as fimbriae, pili, and flagella) may stick to it. Adhesion can occur when adhesive molecules expressed on the bacterial surface bind to host surface receptors; this is associated with biofilm formation (2). In both cases, bacteria can sense that they are in contact with a surface and provide the initial cellular responses to surface contact and subsequent adhesion. Factors like temperature and pH influence the bacterial adhesion...

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