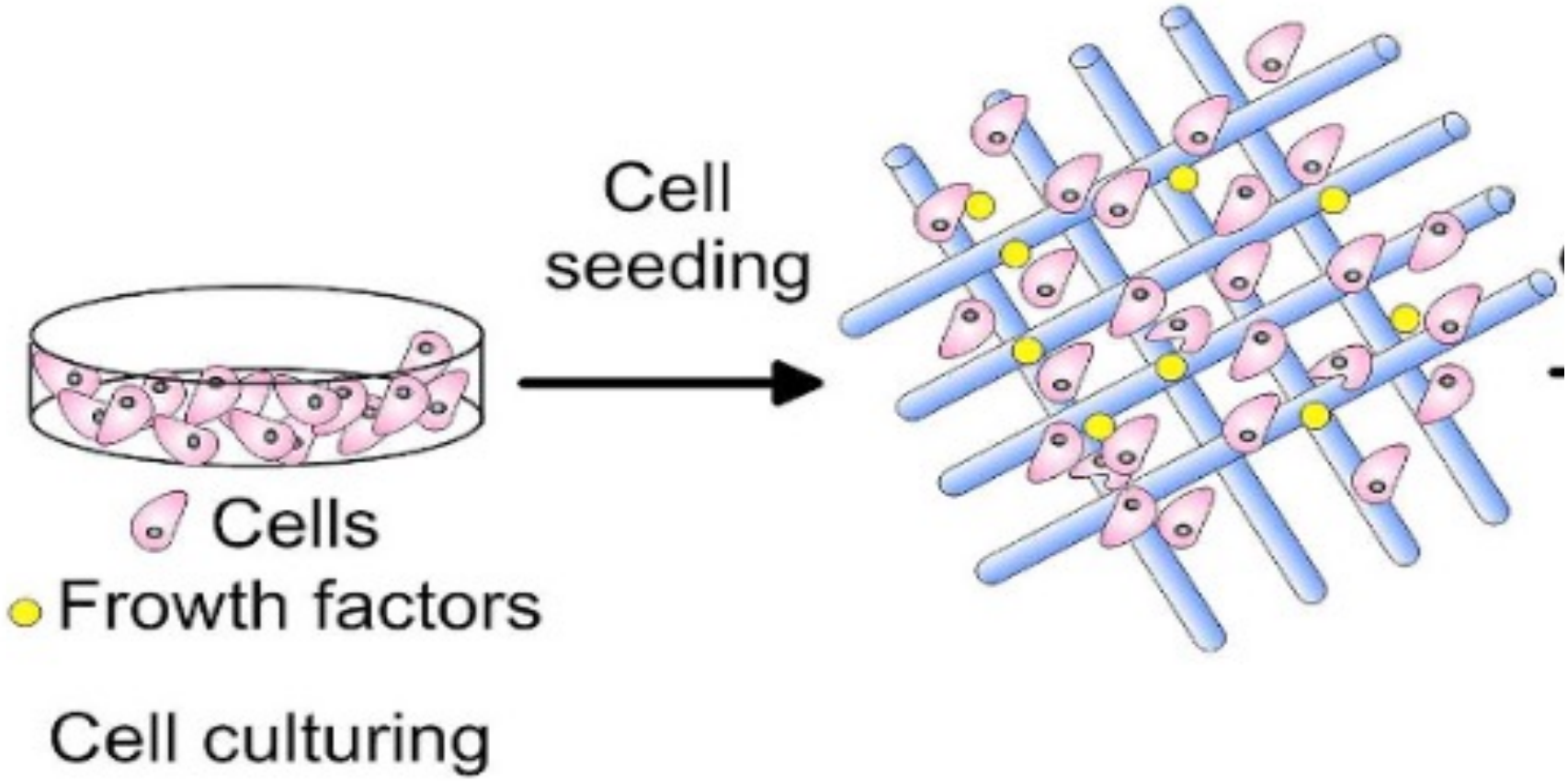

Cell
seeding
Cells
Frowth factors
Cell culturing

Static seeding

Gravitational Seeding

It is simply depositing cell suspension on top of the scaffold and allowing the cells to settle by gravity, and subsequently attach to the surface.

Commonly known as *Static Seeding*.

Advantage: Simple method

Disadvantage: low efficiency and penetration

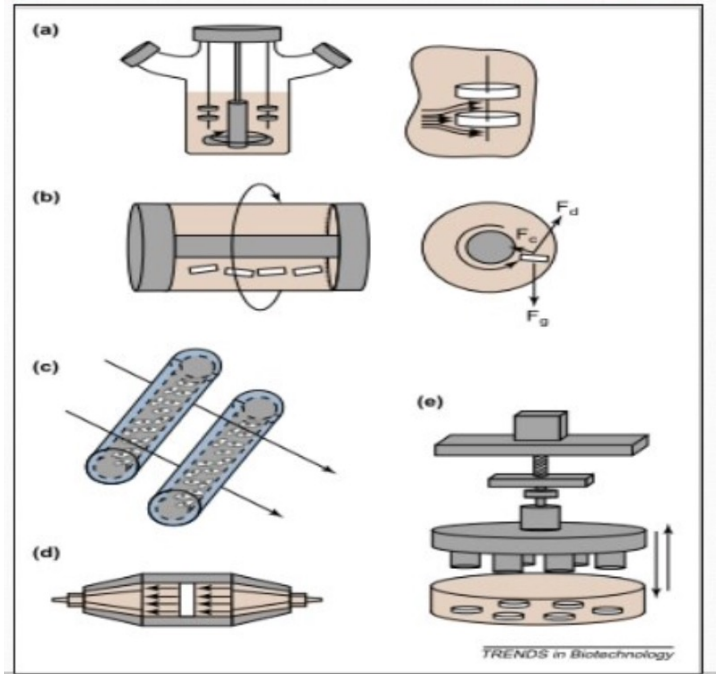
Dynamic seeding

Methods:

- Rotator or shaker
- Spinner flask
- Perfusion flow
- Rotational vacuum

Advantages:

- Higher seeding efficiency and uniform cell distribution



Cell adhesion

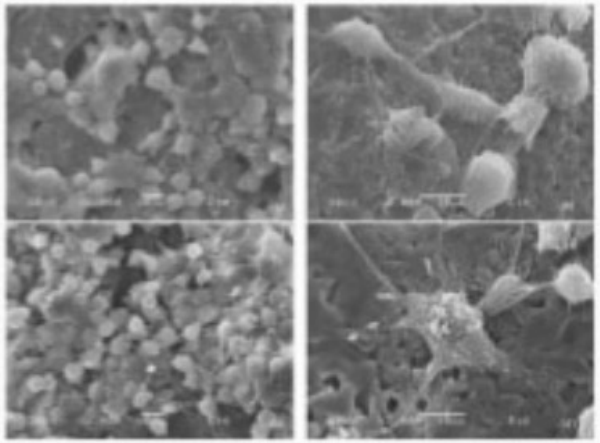
- Most tissue derived cells require attachment to a solid surface for viability and growth.
- Cell adhesion to a surface is critical because it is followed by other important phenomena like cell spreading, migration and differentiated cell function.
- Phenomena

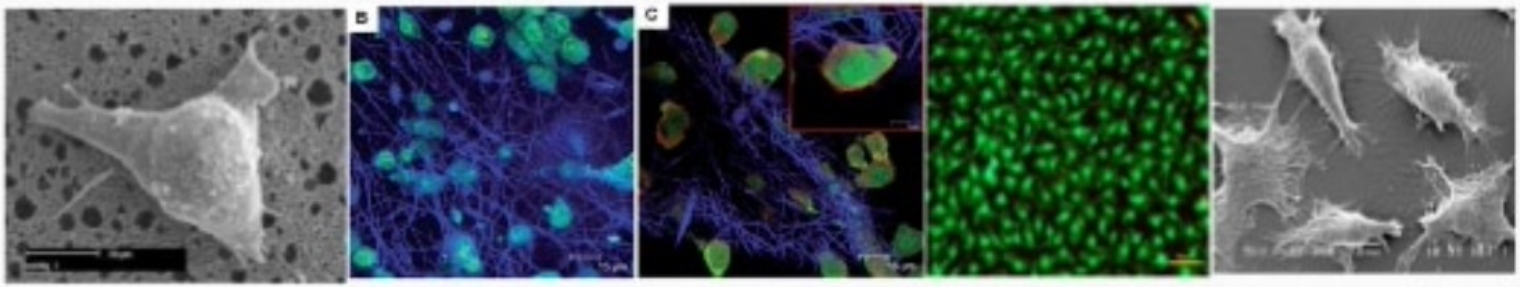
i. Cell attachment
ii. Cell spreading
iii. Focal adhesion

i. **Cell attachment-** cells attach to the surface of the scaffold and form monolayer on the scaffold

ii. **Cell spreading-** surface attached cells divide and proliferate to cover the surface of the scaffold. The cells also penetrate inside the interconnected pores of scaffold.

iii. **Focal adhesion-** Focal adhesions are large, dynamic protein complexes through which the cytoskeleton (protein present in the cell outside the cytoplasm e.g intigrin, actin, myosin) of a cell connects to the extracellular matrix (scaffold).





Cell adhesion and efficiency