

Patient Stratification

Patient stratification is the process of **categorizing patients into subgroups** based on specific biological, clinical, or molecular characteristics in order to:

- Optimize treatment selection
- Predict therapy response
- Improve clinical outcomes
- Reduce adverse effects

Applications

- **Precision oncology:** Identifying patients with molecular alterations (e.g., EGFR mutations) for targeted therapies
- **Clinical trials:** Selecting suitable patients for inclusion or treatment arms
- **Risk prediction:** Estimating prognosis or likelihood of disease progression

Stratification Criteria

- **Genetic and molecular markers:**
 - EGFR, ALK, KRAS mutations in NSCLC
 - IDH1/IDH2 mutations in gliomas
 - BRCA1/2 status in breast/ovarian cancer
- **Tumor characteristics:**
 - Grade, stage, histology
 - Proliferation index (e.g., Ki-67)
- **Patient-specific factors:**
 - Age, performance status
 - Comorbidities
 - Smoking history, environmental exposures

Example: EGFR Stratification in NSCLC

- Patients with **activating EGFR mutations** (e.g., exon 19 deletion, L858R) are eligible for [EGFR-TKI therapy](#).
- Patients with **T790M mutation** post-resistance may benefit from third-generation TKIs like [Osimertinib](#).

Benefits

- Avoids over-treatment or under-treatment
- Enhances **efficacy** of targeted therapies
- Enables **cost-effective** healthcare delivery

- Supports **personalized medicine**

Related Topics

- [Biomarkers](#)
- [Precision Medicine](#)
- [Companion Diagnostics](#)
- [Clinical Trial Design](#)

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