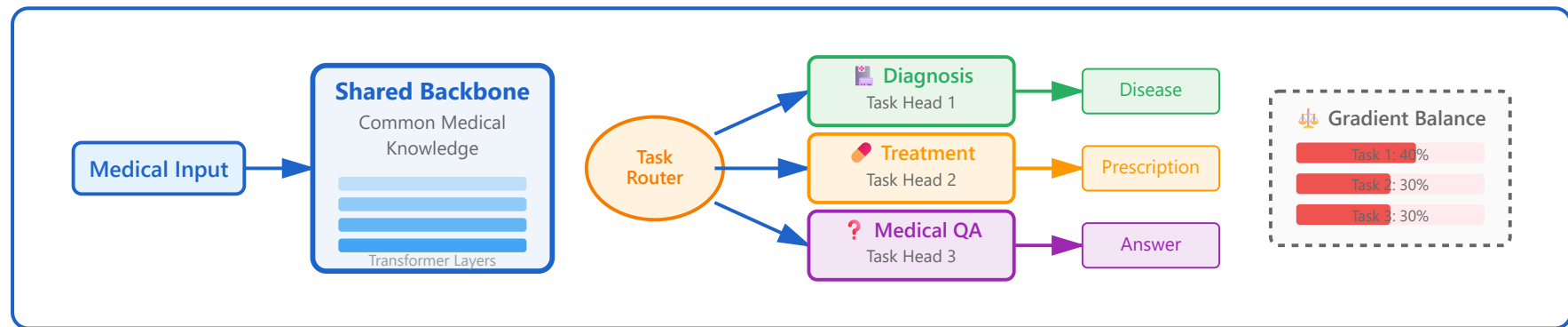# Multi-Task Learning

Simultaneous Training on Multiple Medical Tasks
Share representations while preventing negative transfer

⚖️ Task Weighting Strategies

- **Uniform:** Equal weight for all tasks
- **Loss-based:** Weight by inverse of loss magnitude
- **Uncertainty:** Weight by task uncertainty/difficulty
- **Dynamic:** Adjust weights during training

🚫 Preventing Negative Transfer

- Monitor per-task validation performance
- Use task-specific batch normalization
- Implement task clustering (group similar tasks)

- Apply gradient surgery techniques