



Imbalance of Informed Decision Making in Robot-Assisted Surgery:

A Qualitative Study on Patient Autonomy, Economic Stratification, and Technological Idealization

Yanqi Xie · Finley Yifan Dou · Nan Peng · Beini Lv
Shanghai High School International Division | Tianjin University | Peking University



1 BACKGROUND

- Robot-assisted surgery is rapidly expanding, creating new opportunities while raising questions about patient autonomy.
- Traditional informed consent assumes patients can understand, compare, and independently evaluate medical options.
- Highly complex technologies may create a gap between formal consent procedures and meaningful understanding

2 OBJECTIVE

- To explore how robotic surgery influences informed decision-making from healthcare professionals' perspectives.
- To identify how technology, payment systems, and cultural expectations shape surgical choices.

3 METHODS

A qualitative descriptive study using semi-structured interviews, analyzed through thematic analysis

7

professionals interviewed

5 + 2

clinicians and administrators



tertiary hospitals in Shanghai

4 KEY FINDINGS

TECHNOLOGICAL COMPLEXITY



COGNITIVE ENTRUSTMENT

- Requires specialized knowledge, limiting patients' ability to independently verify technical recommendations.
- Decision-making shifts from understanding-based autonomy toward trust-based collaboration.

PAYMENT SYSTEM



CHOICE BOUNDARY

- Insurance coverage affects which surgical options are realistically accessible to patients.
- Medical decisions are influenced by both clinical suitability and financial accessibility.

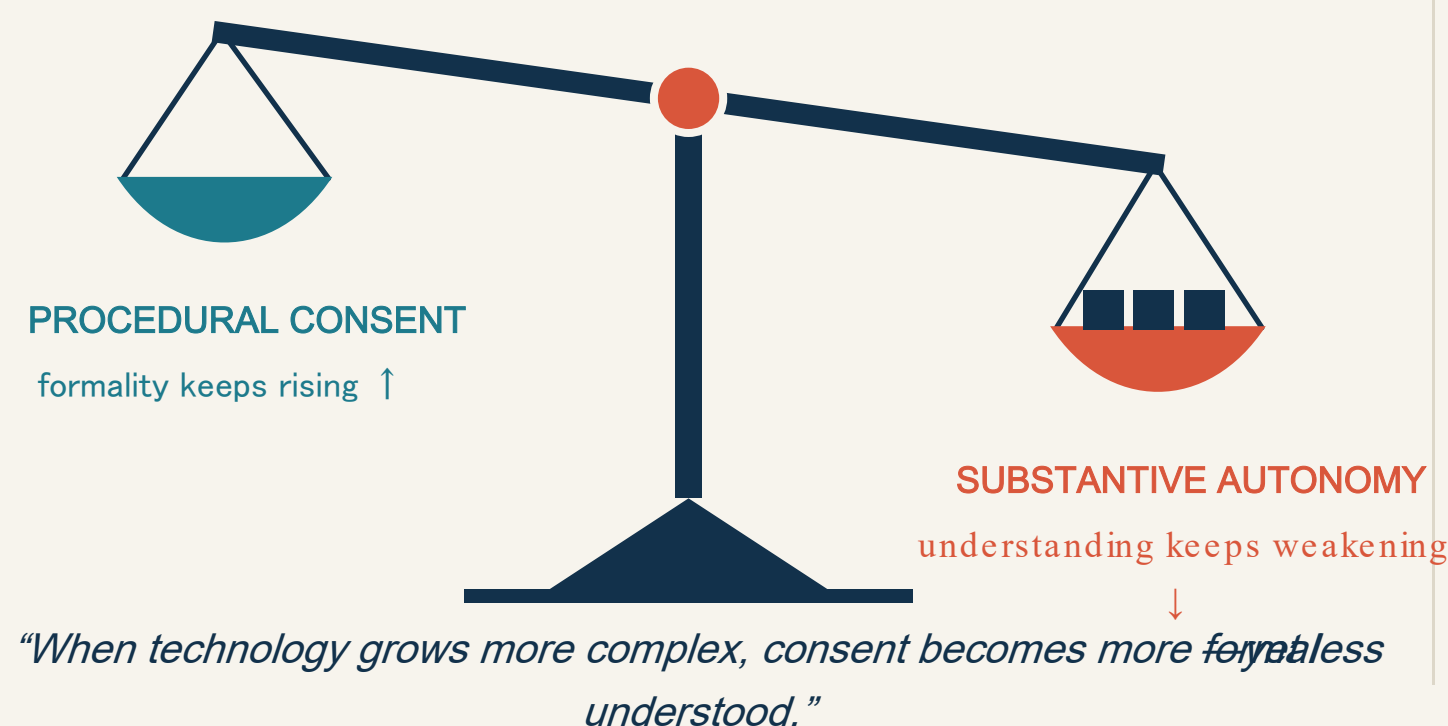
TECHNOLOGY IMAGE



BENEFIT CONFIRMATION

- Commonly associated with precision, innovation, and minimally invasive treatment.
- Patients may pay greater attention to expected advantages during decision making.

THE CONSENT BALANCE



5 THE PARADOX OF TECHNICAL INFORMED CONSENT



Increasing technological complexity may improve the **formality** of informed consent while weakening **substantive autonomy**.

Patients may complete consent procedures while relying heavily on trust rather than independent technical understanding.

6 RECOMMENDATIONS



Independent decision -support resources

Provide patients with balanced information through resources independent of a single clinical source.



Standardized comparison of options

Create clear, standardized comparisons between robotic, laparoscopic, and open surgery.



Multidisciplinary approaches

Reduce dependence on a single information source through team-based counseling.

THE SHIFT NEEDED

PROCEDURAL CONSENT



SUPPORTED PATIENT AUTONOMY

CONCLUSION



Robot-assisted surgery challenges traditional assumptions of informed consent.



Future healthcare systems should move from procedural consent toward supported patient autonomy.