Supplementary table 1 Example of Three Column Recording Method

Left column Negative cognition	Middle column Cognitive Analysis	Right column Rational thinking
If I feel pain, my body is rejecting the new liver.	1. Distinguish symptoms: Postoperative pain usually comes from surgical incisions and healing of intra-abdominal tissues, rather than rejection reactions. The main manifestations of rejection reactions are fever, jaundice, abnormal liver function, etc., which need to be confirmed through examination. 2. Communication verification: When I experience pain, I can report it to medical staff, who will assess the cause and handle it, without the need for self catastrophic speculation.	Pain is a common postoperative symptom that can be relieved through medication. There are clear medical indicators for rejection reactions, and I will monitor them through regular check ups of blood routine and liver function, rather than guessing on my own.
Others recover faster than me, I'm so useless	1. Individual differences: Each person's age, preoperative physical condition, and surgical condition are different, and the recovery speed is not comparable. 2. Focus on progress: Compared to the day before yesterday, I am able to stand up for 5 minutes today, which is progress. 3. Positive self dialogue: I am able to undergo major surgery and actively cooperate with treatment, and I am already very strong.	I don't need to compare myself with others. My recovery was planned according to my own situation, and every small progress made every day deserves recognition. I will keep track of my progress, such as walking 2 minutes more today than yesterday.
I am struggling to walk, the transplant surgery must have failed, and I will never be able to recover.	1. Evidence verification: Early postoperative fatigue is a normal reaction, and successful surgery requires medical examinations such as liver function indicators and imaging to determine, rather than simply measuring physical strength. 2. Comprehensive perspective: Medical staff have informed that postoperative recovery takes several weeks to months, and currently pain and fatigue are normal processes. 3. Positive recollection: Recall the "postoperative recovery stage" explained by the doctor before surgery, as similar patients have also experienced similar stages and gradually recovered.	Postoperative physical decline is a normal phenomenon, and I need to give my body time to recover. Yesterday, my liver function indicators were close to normal, indicating that the transplanted liver is working. As long as I stick to the rehabilitation exercise plan, my physical strength will gradually improve.
I must rest in bed, as activity can cause the wound to crack or damage the new liver.	1. Fact checking: Doctors and nurses have provided guidance on early postoperative activities to prevent blood clots. Complications such as pneumonia, moderate activity will not cause the wound to open (the wound has multiple layers of sutures). 2. Risk comparison: The risk of long-term bed rest (such as muscle atrophy and blood clots) is much greater than the risk of reasonable activity. 3. Gradual principle: The rehabilitation plan is gradual, from sitting up and standing at the bedside to walking slowly, all under safety supervision.	Early and appropriate activities are an important part of rehabilitation, which can help me recover my strength and prevent complications. I will follow the gradual activity plan guided by the nurse, and provide feedback on any discomfort at any time instead of staying completely still.