

*Editorial***Three stages of stroke rehabilitation based upon patients' perspective****Shin-Ichi Izumi, MD, PhD<sup>1</sup>**<sup>1</sup>Department of Physical Medicine and Rehabilitation, Tohoku University Graduate School of Biomedical Engineering, Sendai, Miyagi, Japan

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Rehabilitation of acute-onset diseases such as stroke has been classified into acute, convalescent, and tertiary stages. Recently, the tertiary stage has been called a community-based stage according to the idea of community-based integrated care. However, there is no scientific basis, or specific criteria for these three stages. Practically, clinicians might distinguish the three stages based upon stroke reattack and worsening in the early period, autoregulation disruption of brain circulation, change in muscle tone of the paretic limb, recovery curve of the paresis, improvement in daily living activities, certification of disability, monetary compensations for diseases and injuries, etc. Thus, the borderline between the acute and convalescent stages appears to be determined by biomedical instability and medical management requirements, and that between the convalescent and community-based stages by recovery curve and social support system. If this assumption is correct, the three-stage model appears to be for medical staff usage, and the borderlines are described by medical terms, not by patients' own words. How do the patients and their families deal with stroke? This issue has been referred to as a psychological process toward the acceptance of disability, or adaptation process to disability. In this editorial, I would like to reconstruct the three stages of stroke rehabilitation in the perspective of patients' experience. The following is one way of thinking

based upon my own experiences and knowledge as a physiatrist.

Patients and their families worry about symptoms and pathological conditions. Paralysis suddenly occurs and sometimes worsens. The first stage, 'stage of worsening,' ends when the symptoms and conditions become stable. The next stage starts along with the appearance of muscle tone, voluntary contraction in the paretic limb. During the second stage, so-called acute phase rehabilitation is applied such that patients are allowed to sit, stand, and ambulate. Thus, this stage may be referred to as 'stage of restoration,' even if there is no evidence of recovery of the paretic limb. Then, it is assumed that the 'stage of restoration' perceived by patients begins within some 72 hours after the onset of stroke. What stage follows the second stage? It is objectively the community-based stage so that patients with impairments due to stroke adapt to their environments such as home and society. However, it does not seem to be probable that their inner experiences are congruent with such objective adaptation to society. When the patient-perceived recovery process is far from congruent with the adaptation process, in which the medical staff are making the patients engage, the patients might be blamed for not accepting disability by medical staff. I presume that patients and their families need narratives that link post-stroke life to pre-stroke life. When the patients tell the narratives vividly, and express what they want to do, it may represent the start of the next stage after the 'stage of restoration.' I propose to refer to this period as 'stage of nascence.'

During the convalescent stage from the viewpoint of medical staff, daily life is incorporated in the medical management of the rehabilitation practice that aims at maximizing functional outcomes. From the patients' perspective, the rehabilitation process, incorporated in life, aims at realizing what they want. Incorporating rehabilitation in life does not mean daily rehabilitation training, but acquiring a strategy to link functional recovery to activity and participation; rehabilitative treatment ends when the goal of re-adaptation to life is achieved.

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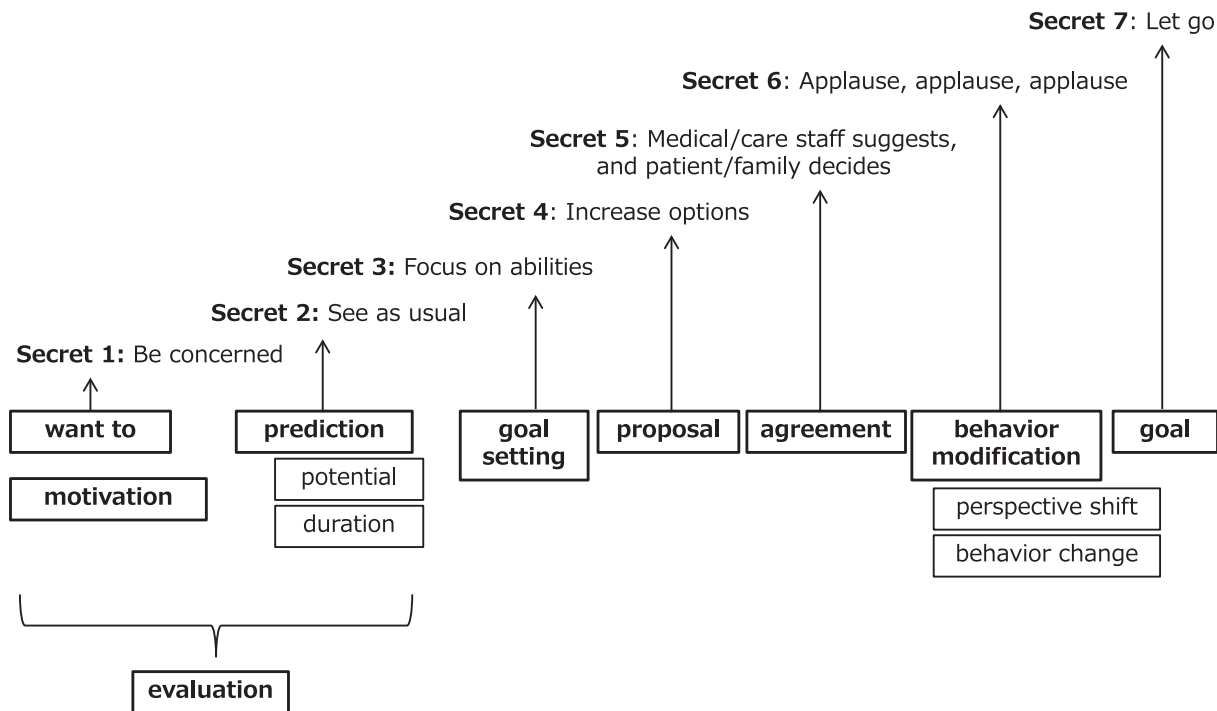


Figure. Rehabilitation process and seven secrets.

I believe that it is fundamental in rehabilitation practice to help patients tell narratives towards the 'stage of nascence.' Although we cannot really understand patients' inner experience, it is possible to sympathize with their narratives and walk with them. Several years of our collaborative research resulted in seven secrets for such process (Figure [1]). These secrets originated from essentials in home-visit rehabilitation, and possibly seem to be adapted to the 'stage of restoration' in the patients' perspective. It is proposed that the 'stage of restoration' is a process

in which aiming at goal achievement in terms of objectively measured functional recovery and telling narratives about solving patients' own problems proceed, interweaving with each other like DNA double helix. I believe that the seven secrets in the Figure represent mental attitudes for rehabilitation professionals to go with patients' experiences.

**References**

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