MUSIC LISTENING TO PREVENT DELIRIUM AMONG OLDER ADULTS ADMITTED TO A TRAUMA INTENSIVE CARE UNIT

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Statement of the Problem

Delirium is an acute neuropsychiatric syndrome with a fluctuating course, with the highest rate among older hospitalized patients.[1-4]

Purpose

Evaluate the effect of passive music listening designed to prevent delirium among older patients admitted to a Trauma Intensive Care Unit (TICU).

Significance

Alteration of neurotransmitters resulting from drug toxicity, inflammation and stressors contribute to delirium.[1-4] Modifying stressors can prevent delirium in adults who are at risk.[5] Alternative interventions are aimed at modifying stressors that contribute to delirium.[5-9]

Theoretical Framework

Roy Adaptation Model (RAM) will focus on modifying stressors in an TICU setting. Individuals respond to changing internal and external stimuli through adaptation.[10] Patients at risk for delirium are unable to adapt when confronted with stressors. Nursing interventions can modify stressors to prevent delirium.

Methods

Design
Randomized Controlled Trial.
Sample and Setting
Adults aged 55 and older admitted to an ICU.
Measures
Confusion Assessment Method (CAM-ICU) to measure delirium.
Physiologic signs of anxiety: heart rate (HR) and blood pressure (BP).
Data Analysis
Descriptive statistics will analyze variables between groups.
Frequencies and descriptive statistics on study variables at baseline.
Group differences will be assessed using chi-square and t-tests.
Outcomes will be assessed using analysis of covariance (ANCOVA) with baseline measure entered as a covariate.

Methods

Intervention
Patients who are CAM-ICU+ will be randomized to a treatment group or a control group. The treatment group will receive a passive music intervention using a portable walkman player with a music cassette disc (CD) of patient's choice and a Sony head set, for one hour, four times a day throughout the day and at sleep. Control group will receive usual care. Patients will be assessed using the CAM-ICU on admission and every shift. Physiologic signs of anxiety will be measured; HR monitored continuously and BP taken prior to, hourly, and at completion of music intervention.

Tools

Psycho physiological effects from music can cause relaxation, decrease pain, blood pressure, heart rate and respiratory rate.[11]
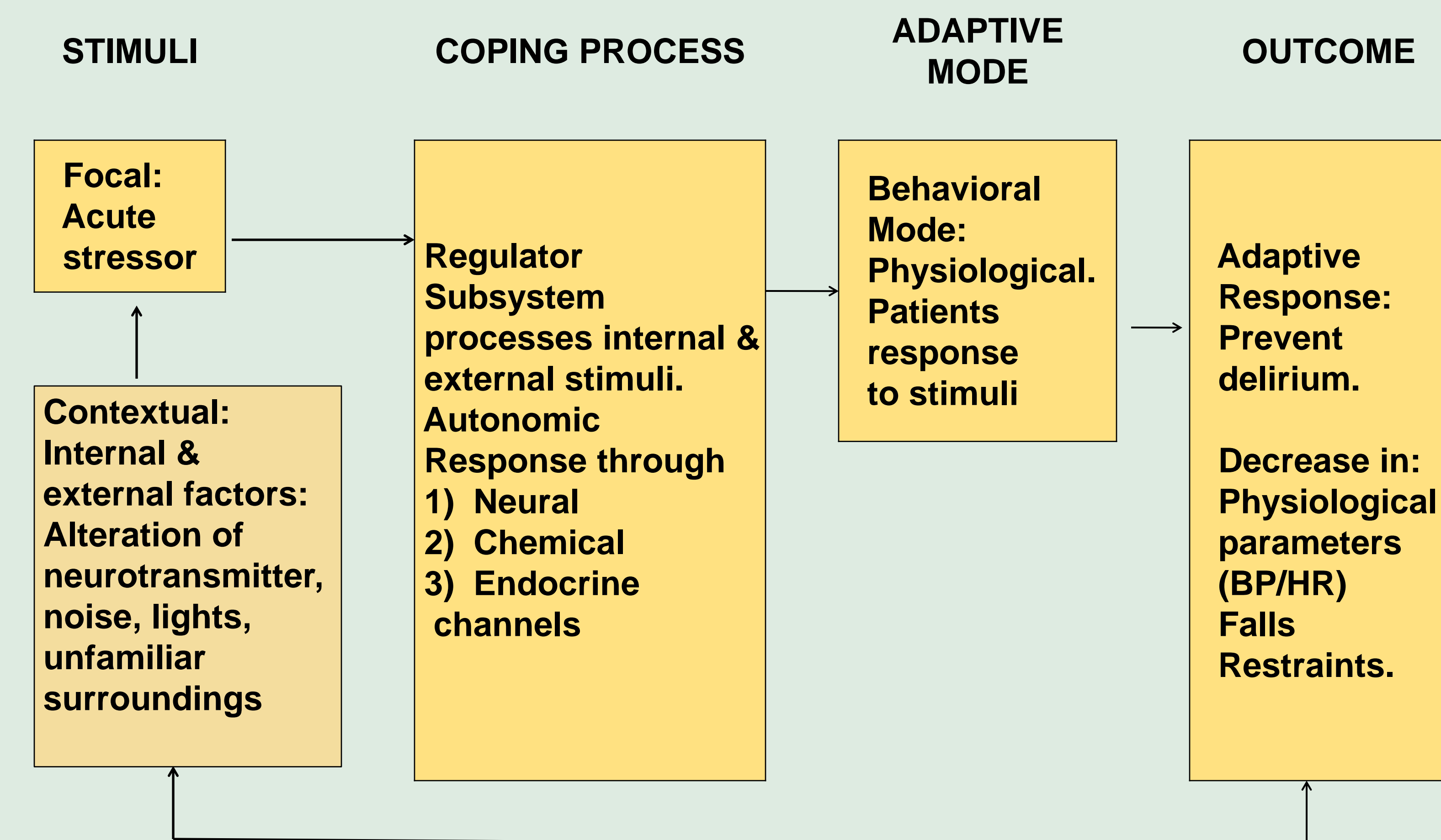

Music acts as a distracter, and provides an escape from a negative stimuli such as anxiety by providing a pleasant stimuli.[11]
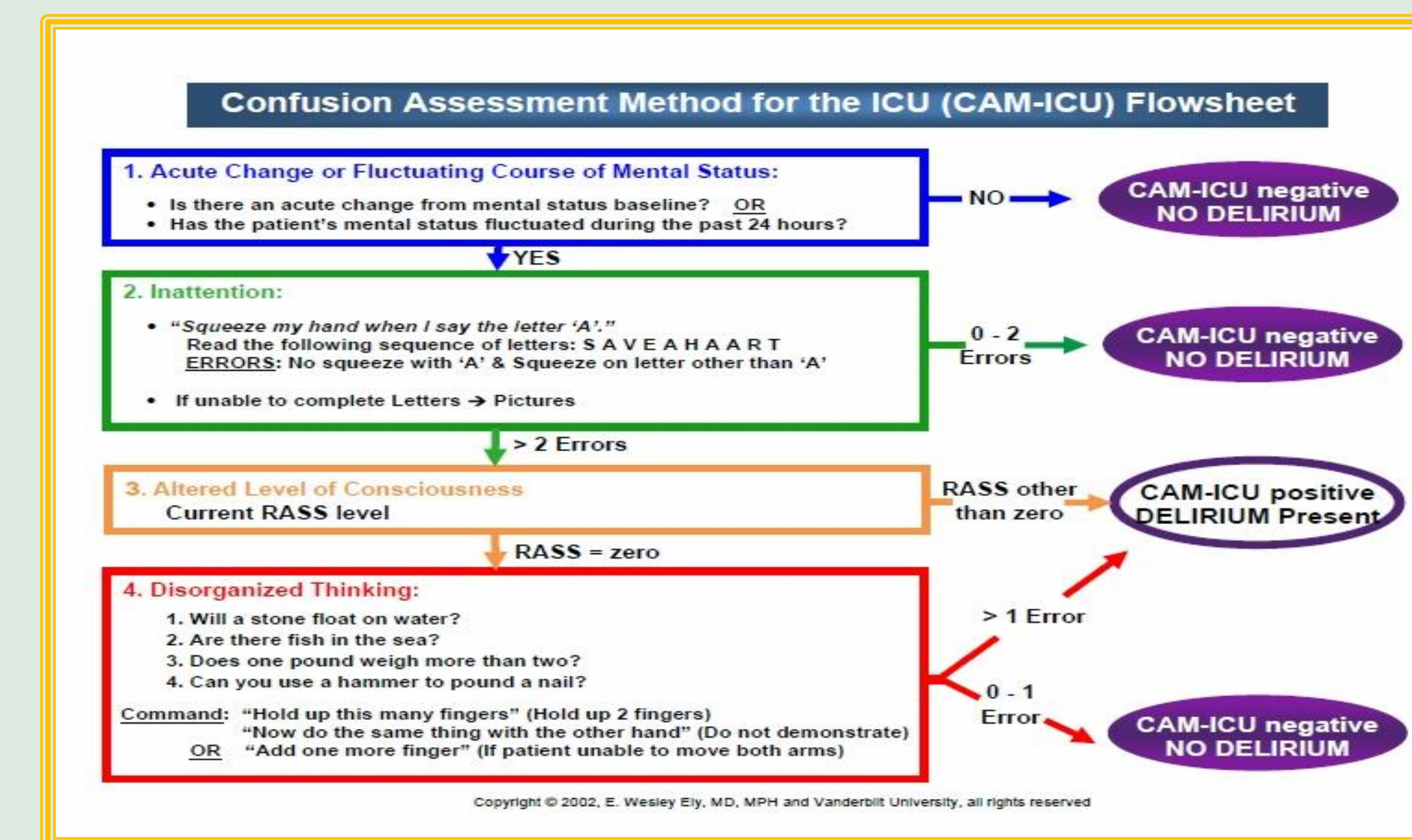
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Roy Adaptation Model

STIMULI | COPING PROCESS | ADAPTIVE MODE | OUTCOME

Focal: Acute stressor

Contextual: Internal & external factors: Alteration of neurotransmitter, noise, lights, unfamiliar surroundings

Regulator Subsystem processes internal & external stimuli. **Autonomic Response** through 1) Neural 2) Chemical 3) Endocrine channels

Behavioral Mode: Physiological. Patients response to stimuli

Adaptive Response: Prevent delirium.

Decrease in: Physiological parameters (BP/HR) Falls Restraints.

Tools

Confusion Assessment Method for the ICU (CAM-ICU) Flowsheet

Overall CAM-ICU: Positive for delirium when feature 1 + 2 and either 3 or 4 are present .

Conclusion

A music intervention can prevent delirium by targeting stressors, causing a state of relaxation with physiological changes, including lower BP and HR.[11] Neuro-scientific studies report music listening as a therapeutic intervention to modify acute stressors.