

MEDICAL STUDY OF TABLE TENNIS PRACTICE
- Table tennis practice activate the higher brain function-

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Our members of Japan medical doctor table tennis league were requested to the study of a thema " table tennis and brain " by H. Tamasu corporation president 5 years ago. So, we made a research team and set to study. Recently, we obtained several interesting results that table tennis activate the higher brain function.

I would like to introduce about three summaries of our studies.

1. Cerebral blood flow (CBF) was increased by table tennis

CBF of Six table tennis players was measured at ten minutes after table tennis practice by the method of SPECT (single photon emission computed tomographith). CBF in the cerebellum, pons and mid brain (area of vertebrobasilar artery) was increased remarkably and in the bifrontal lobe too (Fig. 1).

2. Table tennis therapy attained an effect for the rehabilitation of patients with central nerve disease.

Table tennis therapy were tried as one of rehabilitation treatment in total 44 patients (34 cerebrovascular disease, 5 brain tumor, 3 head injury, 2 dementia). The state of functional recovery was evaluated with performance status, grading of motor and sensory, Self-rating Depression Scale (SDS), Hasegawa Dementia Scale (HDS-R), Mini-Mental State (MMS) and Benton visual memory test befor and after table tennis therapy. Symptoms and signs of patients were improved within one or two month after therapy (Fig. 2).

Table tennis therapy is good as rehabilitation treatment.

3. Table tennis practice can prevent or delay senile dementia

Mental ability of 217 Japnese table tennis players aged over fifty were evaluated with Kaneko method or Kana-pick-out test (the higher brain function test) by M.H.Kawano MD and K.Mimura MD et al.

It was found that table tennis players generally succeeded in obtaining higher scores in this test than 256 non-players. The longer one practices table tennis, the better the score on this test is (Fig. 3).

Fig.1 Cerebral Blood Flow(CBF) by ^{99m}Tc-ECD SPECT

Case 55y Male (Red show rich CBF area , blue show poor)

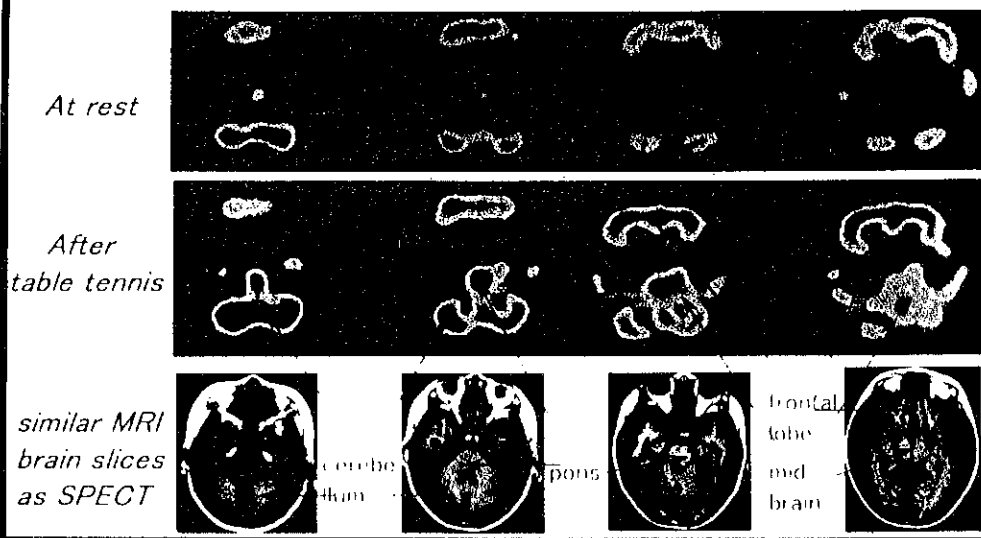


Fig.2 The Effect of Table Tennis Therapy on 44 Patients with Rehabilitation

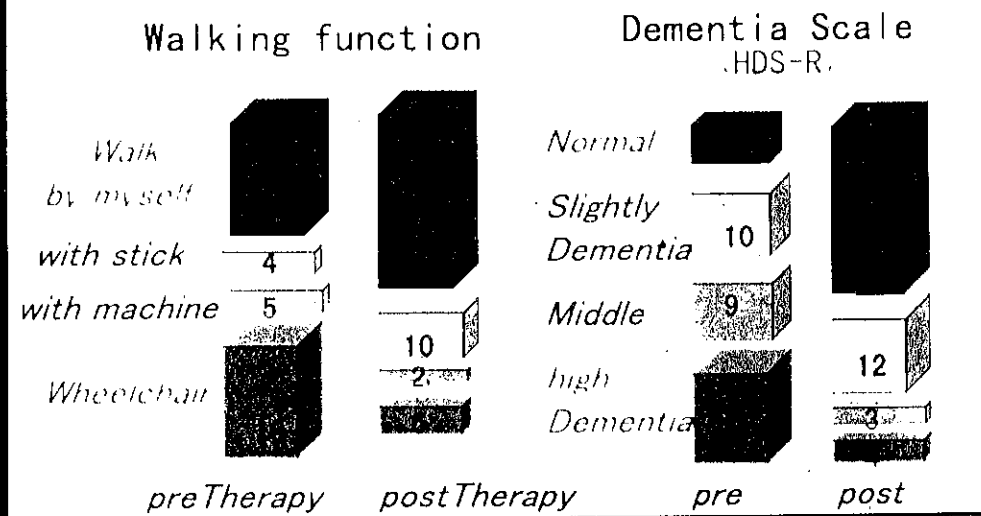


Fig.3 Score of Kana Pick Out Test of table tennis players (high score show the higher brain function)

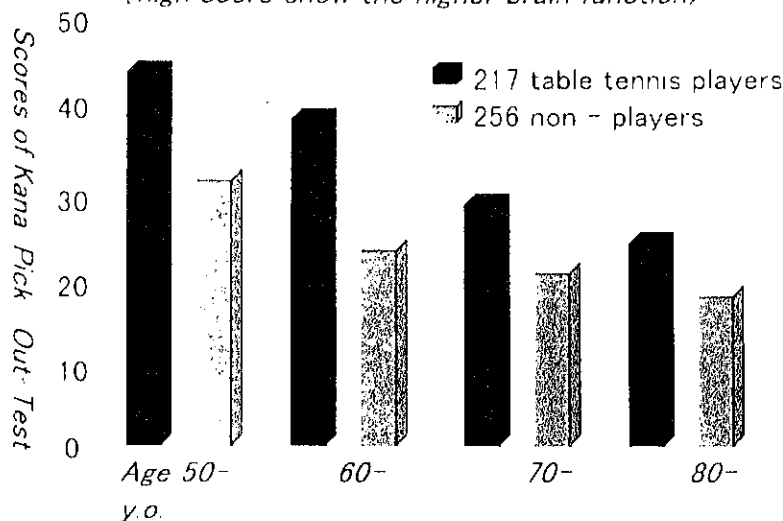


Fig.1 Cerebral Blood Flow (CBF) by 99m Tc-ECGD SPECT
Case 55y Male (Red show rich CBF area , blue show poor)

At rest



After



table tennis

*similar MRI
 brain slices
 as SPECT*

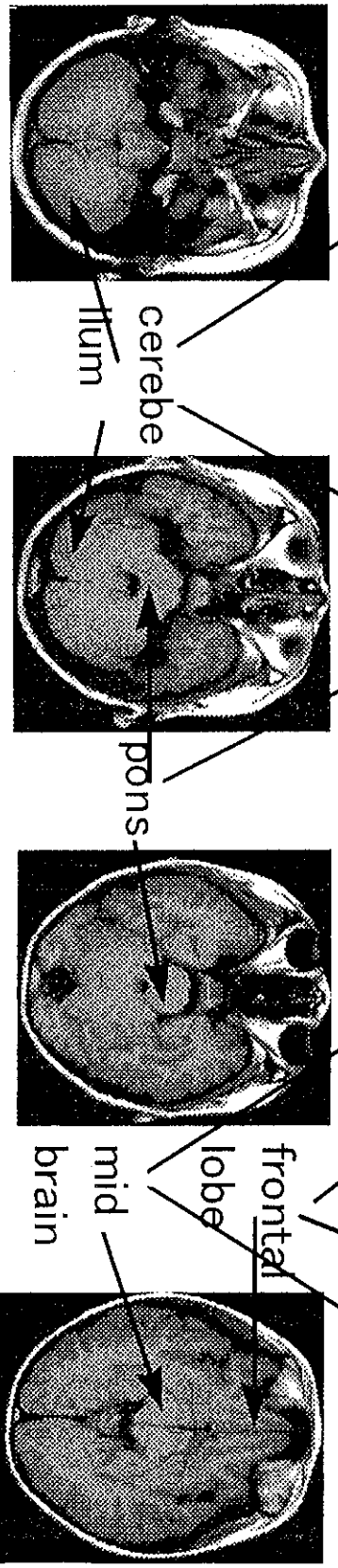


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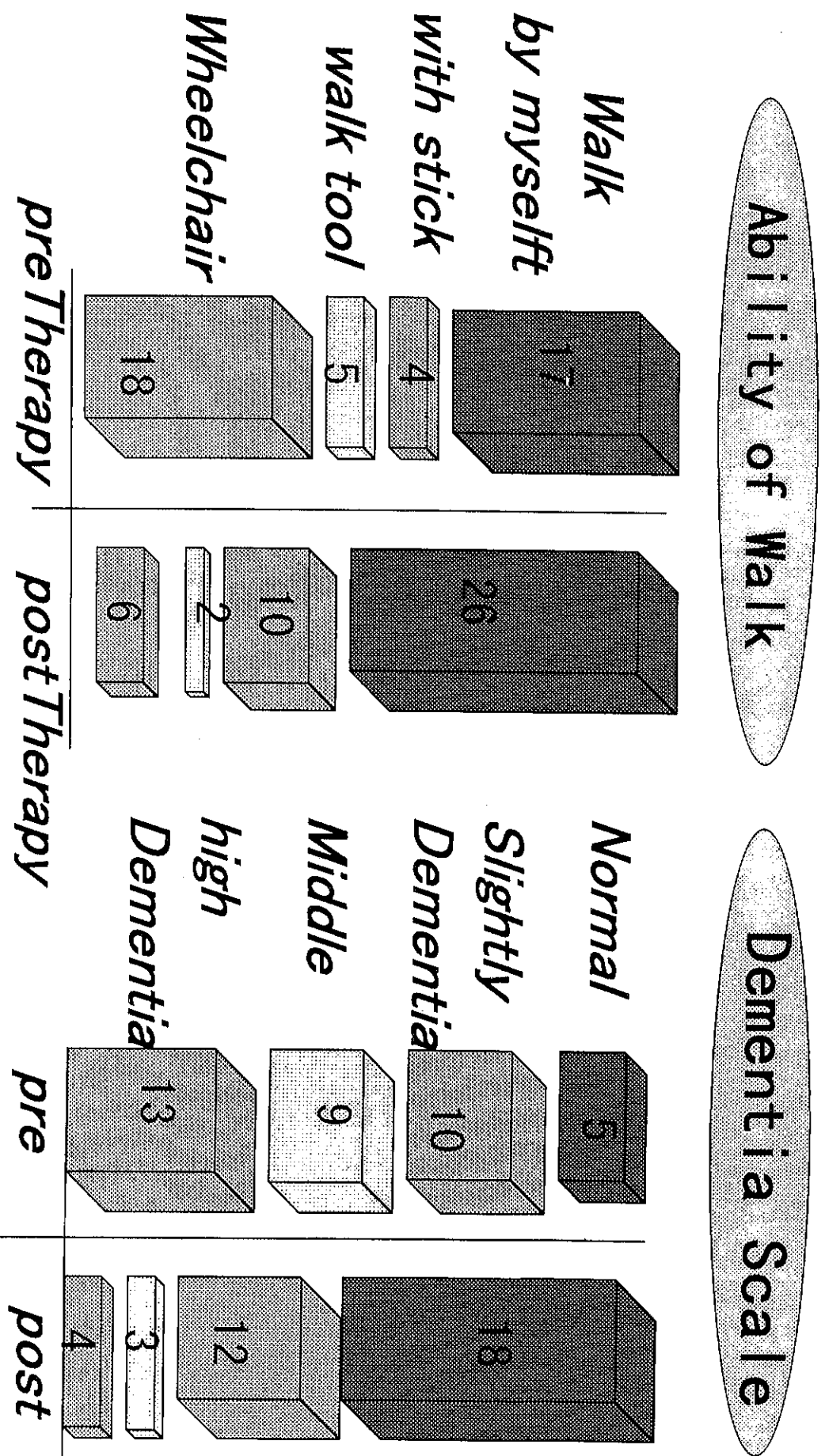


Fig.3 Score of Kana-Pick-Out-Test of table tennis players
(high score show the higher brain function)

