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# OUR MISSION



DOPA SOLUTION's  
aim is to satisfy

**“Non Essential  
But Essential”**

**Needs.**

Design for people with motor control disabilities  
on a focus to non-essential needs

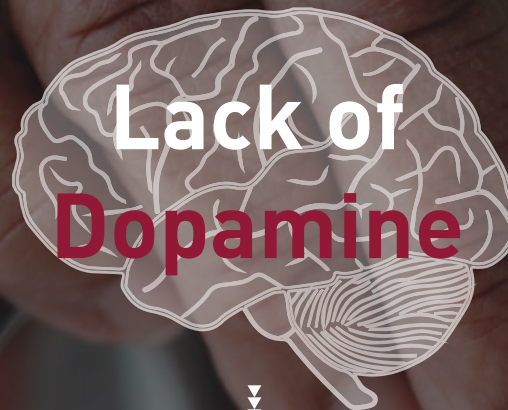


MASLOW'S HIERARCHY OF NEEDS

# CONTEXT



People with  
**Parkinson's  
disease**  
**7,000,000**



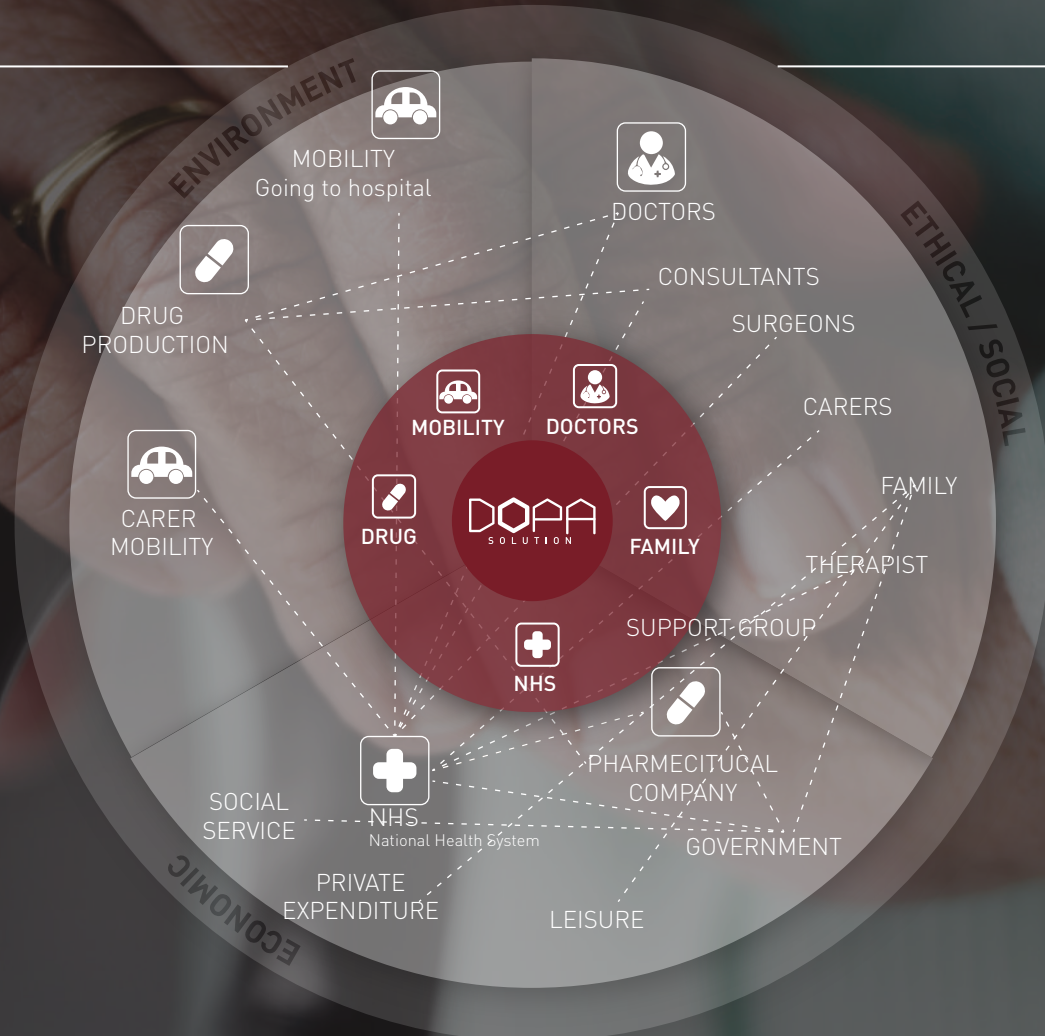
⇓  
Hard to control  
movement



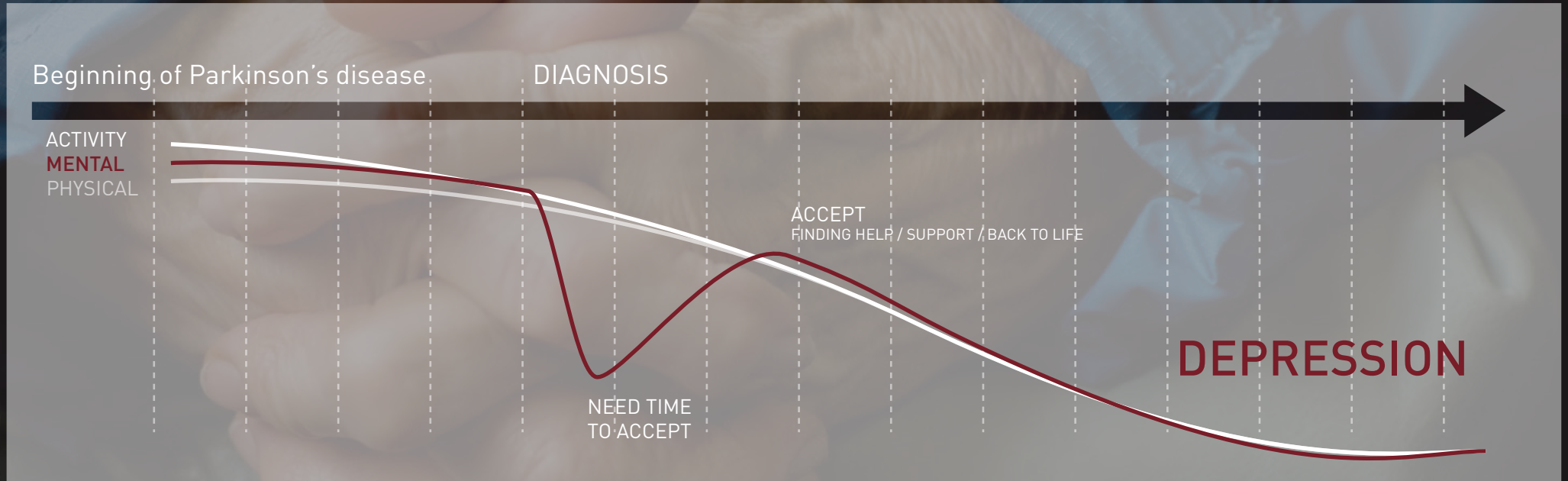
There's currently no cure for Parkinson's and we don't yet know why people get the condition. Parkinson's doesn't directly cause people to die, but symptoms do get worse over time. Living with progressive disease is not just about dealing with basic needs, but also about tackling higher level of needs. It ruins social relationship and self esteem.

# CONTEXT

Helping people to  
**STAY**  
in early stage  
of parkinson's  
as long as possible  
through wellbeing



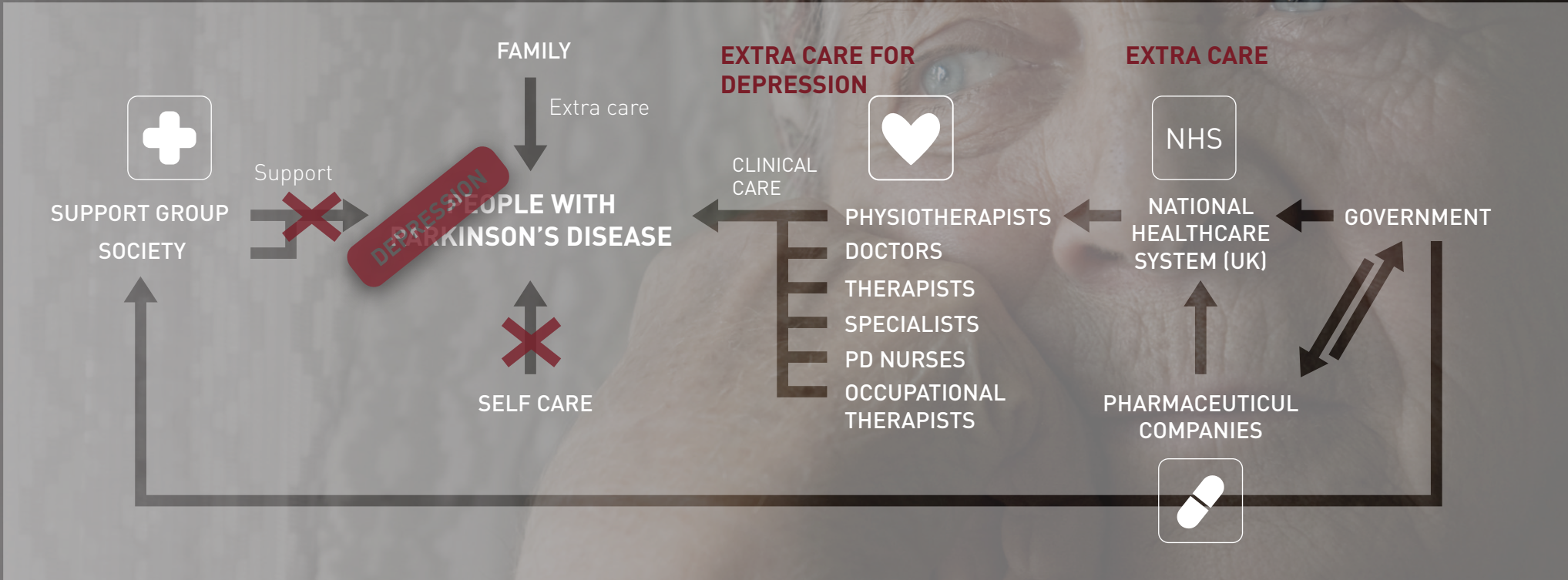
# PROBLEM



## LIFE WITH PROGRESSIVE DISEASE

As the disease progresses people get limitation of activities and this causes **DEPRESSION** which then makes the progression of disease even faster.

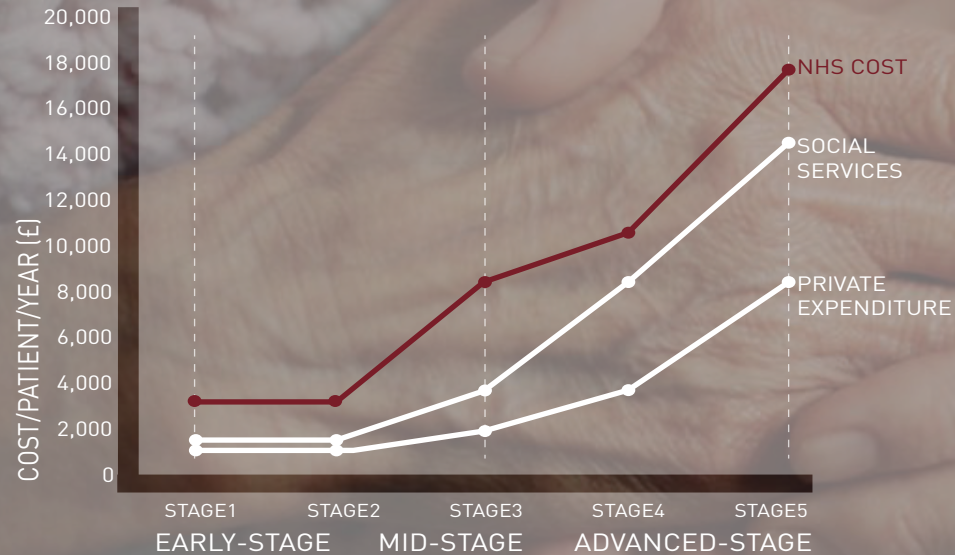
# SOCIAL PROBLEM



# ECONOMIC PROBLEM

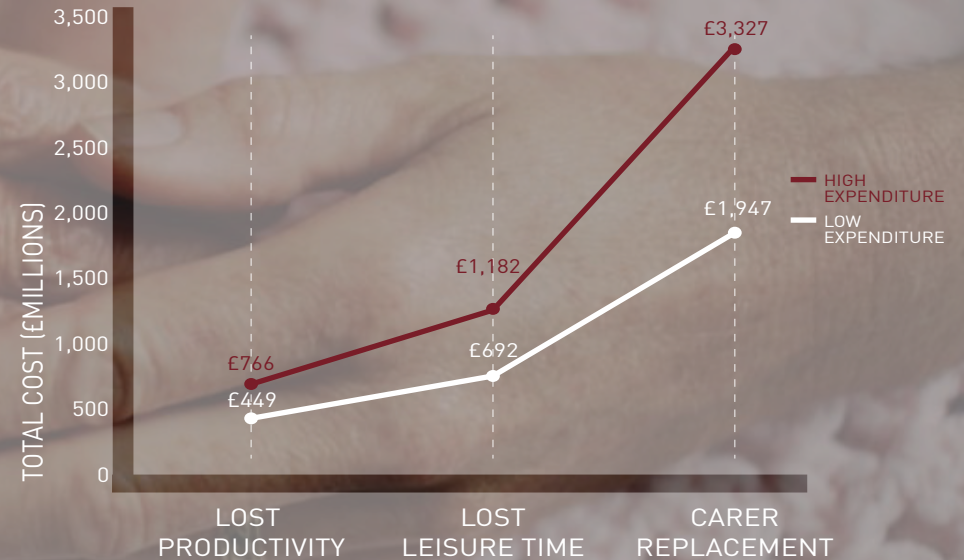
### Direct Cost of Parkinson's Disease, UK

(Hoehn & Yahr Scale)



### Total Cost of Parkinson's Disease, UK

(Three indirect cost models)



ECONOMIC EFFECT DEPENDING ON PROGRESSED STAGE Keeping people with PD on early stage as long as possible reduces economic loss

# ENVIRONMENTAL PROBLEM



## CARERS' TRANSPORTATION



### INCREASE OF MOBILITY

carers have to transfer more patients need vehicles to travel, which cause air pollution and traffic jam

## MORE DRUG CONSUMPTION AS THE SYMPTOMS INCREASE



### DRUG PRODUCTION

carbon footprinting of pharmaceutical products approximately **20%** of the NHS carbon footprint



### DISPOSAL TOXICITY

**100+ pharmaceuticals** have been detected in lakes, rivers, reservoirs and streams throughout the world



### CONTAMINATED PACKAGING

**250 million pounds** discarded by hospitals and long-term care facilities

REPLACING TREATMENT CAUSING NEGATIVE IMPACT displacement can prevent increasing frequency of using carer service and drug dosage.



# CHALLENGE



GET LIFE BACK

Hand Tremor & Stiffness



## MICROGRAPHIA

*Writing gets smaller & smaller*



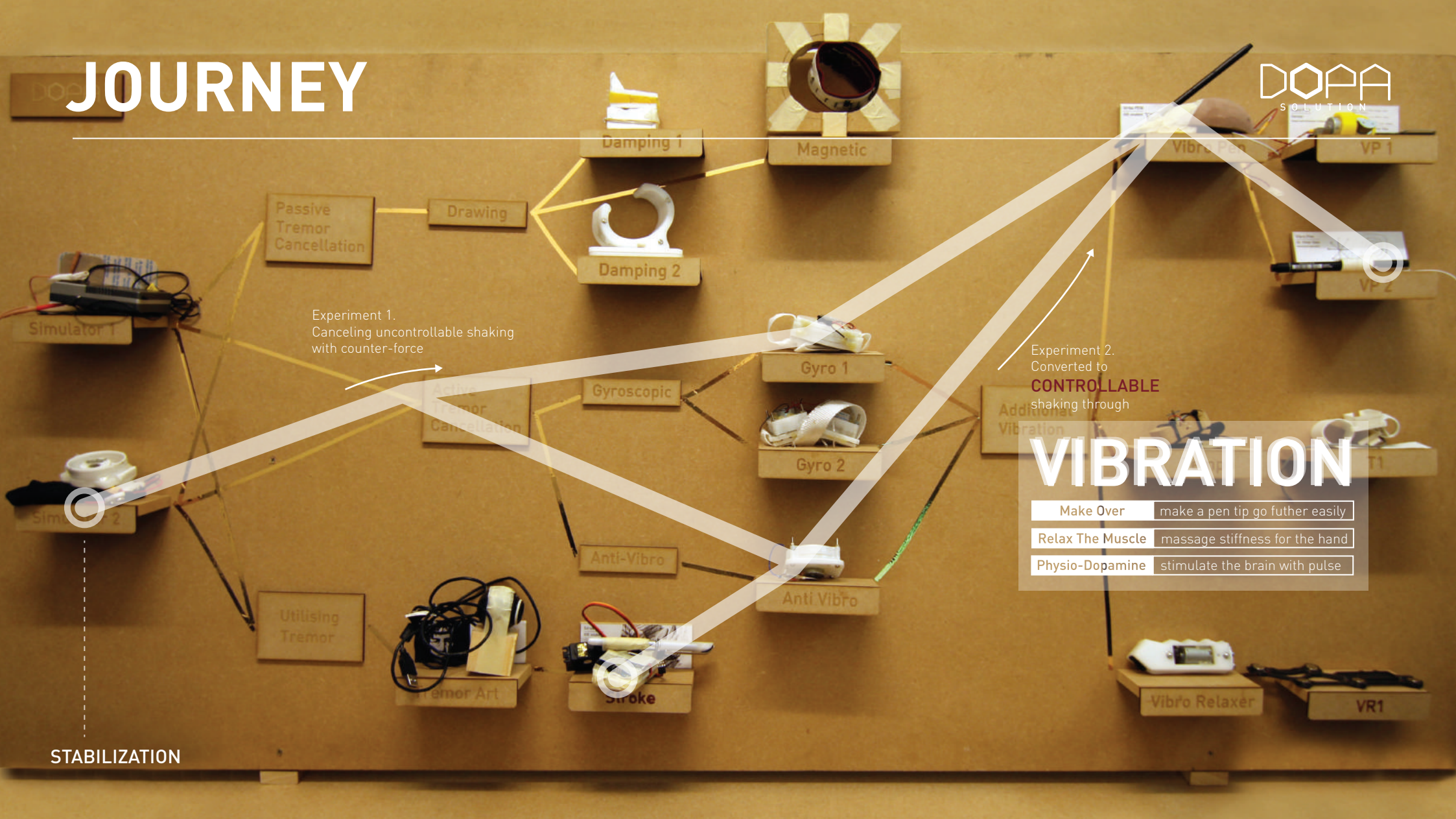
social embarrassing

no more enjoyment of writing

loss of self-identity

stress and depression

# JOURNEY



Experiment 1.  
Canceling uncontrollable shaking  
with counter-force

Experiment 2.  
Converted to  
**CONTROLLABLE**  
shaking through

# VIBRATION

- Make Over** make a pen tip go futher easily
- Relax The Muscle** massage stiffness for the hand
- Physio-Dopamine** stimulate the brain with pulse

STABILIZATION

# USER TEST

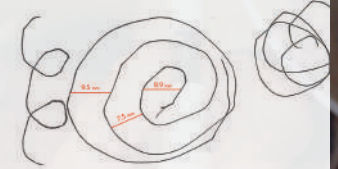
Writing

Spiral

Before

126.3mm

Once upon a time there was a Princess who lived in a kingdom far, far away; and in that kingdom there also lived a boy and the Princess loved that boy and, so they two decided to marry.



Vibration

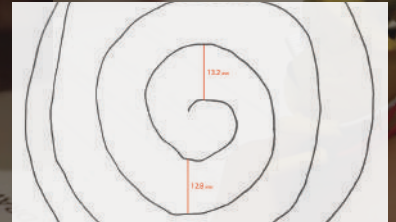
Once upon a time there was a Princess who lived in a kingdom far, far away and in that kingdom there was also a boy and the Princess loved that boy and so they two decided to marry.



After

155.0mm

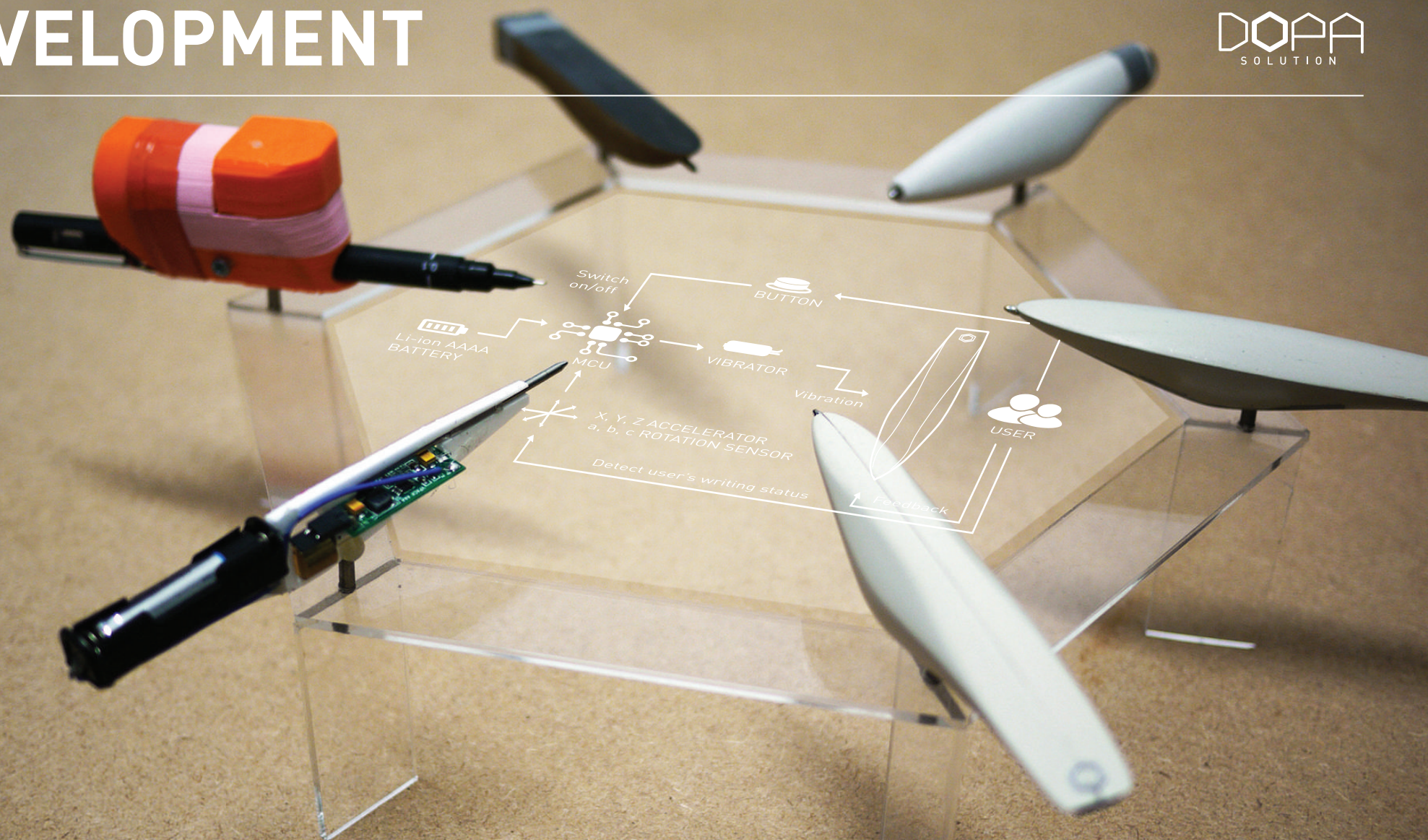
Once upon a time there was a Princess who lived in a kingdom far, far away; and in that kingdom there also lived a boy and the Princess loved that boy and so they two decided to marry.



93%  
Bigger

86%  
Bigger &  
smoother

# DEVELOPMENT



ARC

*For better handwriting*

The first therapeutic  
vibrating pen  
for people with Parkinson's

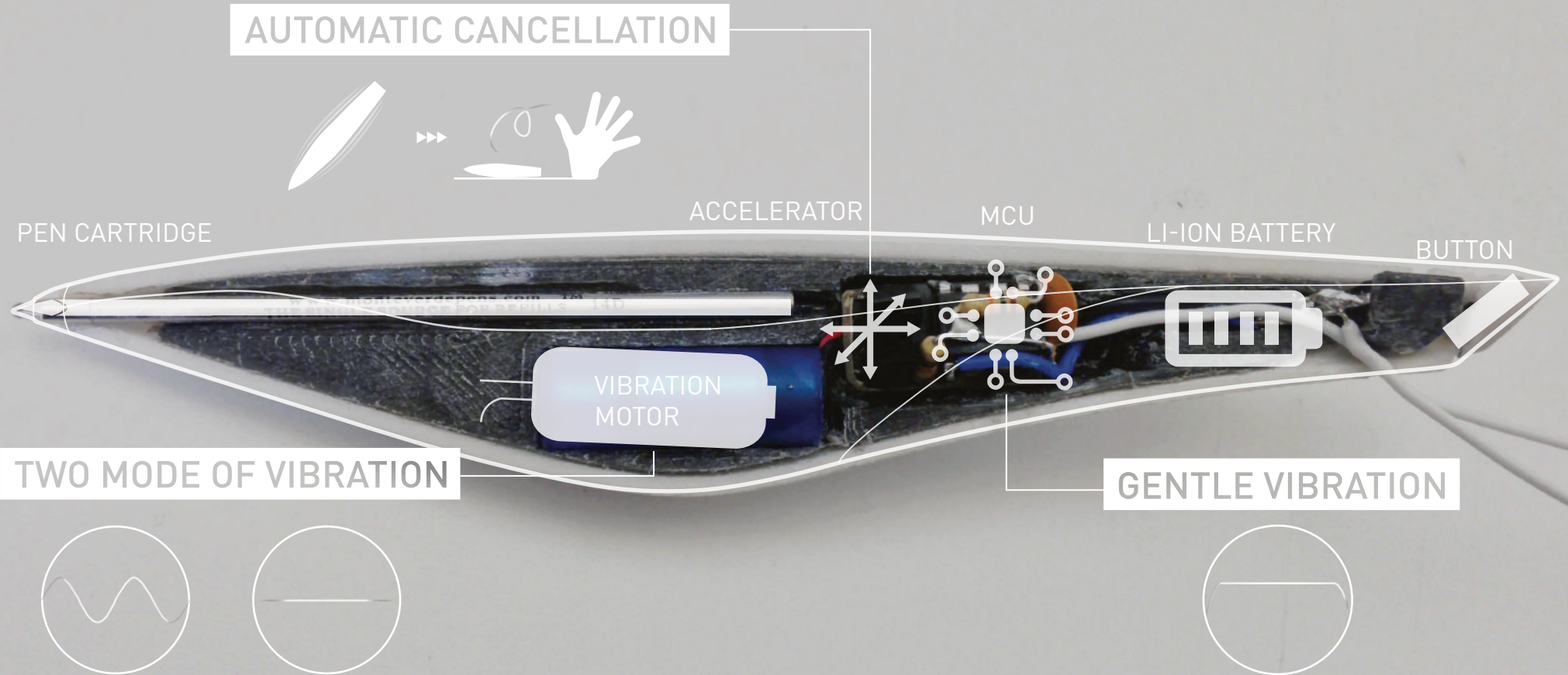
Arc



DOPA  
SOLUTION



# STRUCTURE



# IMPACT

## KEEPING ABILITY TO DO ACTIVITIES FOR PARKINSON'S DISEASE





# POTENTIAL MARKET

PARKINSON'S DISEASE

MAKE-UP

MASSAGE

ART

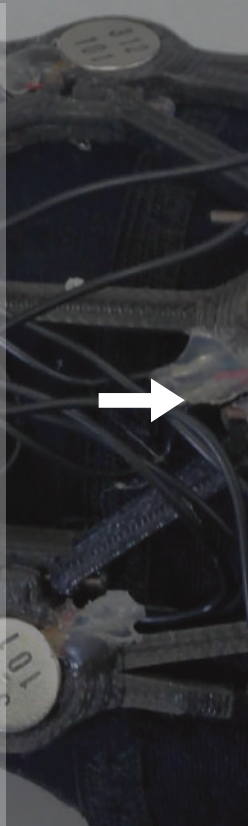
GAIT GUIDE

SPORTS

CATERINGS

PSYCHOLOGICAL COMFORT

**HAND WRITING**



- ESSENTIAL TREMOR
- STROKE
- MULTIPLE SCLEROSIS
- TRAUMATIC BRAIN INJURY
- CHRONIC KIDNEY DISEASE
- PARKINSONISM
- WILSON'S DISEASE
- METAMORPHOSIA