



## Gamma-knife Treatment 加碼刀治療(英文)

### Introduction

Gamma knife is an advanced radiation surgical treatment. It introduces advanced stereotactic surgery. Gamma ray aims faultlessly at healing the nidus part of the brain. Gamma knife, though called knife, does not make you bleed; it is less dangerous and it relieves physical and mental burdens of the patients and of their family.

### Advantage of gamma-knife

1. Patients do not suffer from head surgery; with gamma-knife, patients do not bleed much and there is no surgical wound.
2. Patients can stay conscious during the treatment because there is no anesthesia.
3. Such a radiosurgery provides better precision and is much safer.
4. Most patients can return to their normal life routine two or three days after treatment.
5. Surgeons can incorporate Gamma knife with traditional brain surgery to achieve a better effect.
6. Gamma knife can effectively treat nidus, deep in the brain, which cannot be removed with traditional head operation.

### Symptoms

1. Cerebral vascular disease
2. All kinds of intracranial tumors
3. Trigeminal neuralgia
4. Refractory epilepsy

### Preparations

1. Possible fasting if your doctors demand it.

2. Wash your head thoroughly a day before the surgery to prevent sebum from affecting the treatment.
3. After doctors' explanation regarding treatment process, fill out the surgery consent form.

## Steps of treatment

1. Tighten the head fixation: After partial anesthesia, stabilize the head fixation on patients' heads.
2. Images check: Use nuclear magnetic resonance to get radiography of the nidus.
3. Treatment plan: Doctors, base on the size and location of the nidus images taken from NMR, draw up a treatment plan.
4. Gamma knife surgery: Patients lie flat on the gamma-knife bed and are sent into the Gamma machine for irradiating; patients should not panic because such a procedure does not incur pain.
5. Exercise treatment: When patients lie on the treatment bed, surgeons would adjust patients' head position and provide a radiation treatment base on the drafted treatment plan. Often time duration varies depends how severe the nidus is.
6. Such a treatment takes approximately 4 to 6 hours to complete.

## Effects after surgery

After taking gamma-knife surgery, pathological cells would die down gradually. Normally it takes several weeks to several months. For malignant tumors, it takes a few weeks and a few months for benign tumor to take effect; as to cardiovascular mutation tumor, it takes longest usually 1-2 years to fully recover.

## Notes

1. Keep surgical site clean and dry. Stay alerted if the wound is red, swollen, heated, and aching, or even bleeding.
2. To ease painfulness caused by the wound, patients could use an ice pad to compress it.
3. After surgery, have the wound dry at all time; and if there is no abnormal secretion, stop changing dressings.
4. 48 hours after the surgery, patients may wash their heads.
5. Return to the hospital on a monthly basis.
6. It is advised that patients should return to the hospital for magnetic resonance imaging every three months.

