

  
Gamma Knife Center  
مركز الجاما نايف  
معهد ناصر

# Gamma Bulletin

*A Newsletter from the Gamma Knife Center, Nasser Institute, Cairo, Egypt*



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A Newsletter from the Gamma Knife Center, Cairo

January 2011

## Gamma Knife Centre, Cairo, 10 Years of Achievements Committed to Quality Treatment

By June 2011, the Gamma Knife Center, Cairo, will complete ten years of active participation to the medical services in Egypt, such years represented to us a long story of success in providing standard of care treatment to our people, to achieve a proper rank in the medical milieu in Egypt and to become a recognised research and training center of excellence in the region.

In the current newsletter we will give an idea about our beginning, our present and our planes for the future.

### **In the year 2001:**

We treated our very first patient in the Gamma Knife Center, Cairo and Mrs. Manal's smiling face was like a logo for years to show the patients who were suspicious about how applying the frame would be painful, that everything would go smooth like this smiling lady.

After all of those years, Mrs. Manal is still on regular follow up and she is still grateful to this way of treatment that saved her from being subjected to a risky operation as was told by her neurosurgeon and she continued her life like any wife and mother.



In the photo to the right we can see Dr. Sameh Ali, our Assistant General Manager, presenting a symbol of our appreciation to our first patient who kept her follow up regular for those years.



### In the year 2010:

We also celebrated a different event, our treated patient No. 3000, Mr Fathy who is shown with his frame applied and after his treatment with his nice family who were very happy that he ended his treatment without any problems and went home with some flowers from our staff .



### In the year 2001:

The Gamma Knife Centre, Cairo, sent Dr Wael Abdel Halim, to be trained in Sweden for the gamma knife, and Dr Khaled Abdel Karim, to be trained in the Cromwell Gamma Knife Center in London, to gain all the practical and clinical skills to be a part of the Medical team of the center.



### In the year 2010:

Our center was recognized as a training center. We trained a neurosurgeon and a physicist from the republic of Chile. They were very happy to find a center in the middle east that is run according to the best standards that they found in the USA.

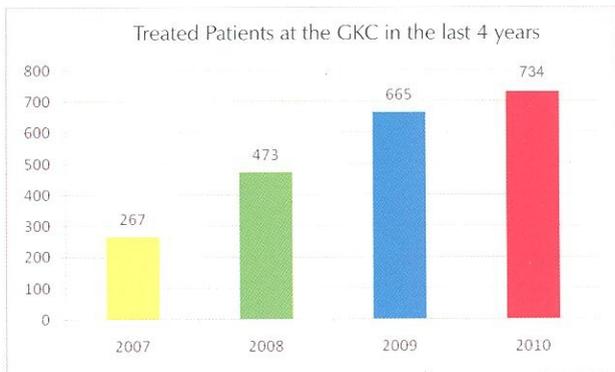


### By January 2011 we reached 3100 patients:

We treated 734 patients in the year 2010, which is a new record in the history of our center, those patients were all treated with all the dedication we are known of. The following is a chart that shows the growing numbers of treated patients in our center in the last four years.



*Gamma Knife 2011*



The table showing the cumulative number of treated patients according to their diagnosis as by December 2009 and December 2010.

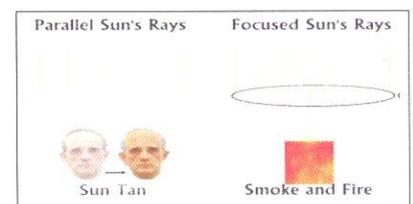
## GAMMA KNIFE

### *Indication*

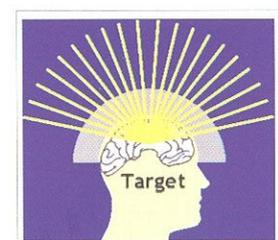
Indications	Total No. of patients	
	2009	2010
Meningioma	909	1075
Vestibular schwannomas	421	473
AVM	318	364
Pituitary adenoma	227	282
Cavernous haemangioma	76	97
Low-grade Astrocytoma	71	97
Trigeminal neuralgia	60	75
NF2	56	65
Craniopharyngioma	46	55
Metastases	43	50
Trigeminal schwannomas	43	44
Glomus jugulare tumors	42	50
Malignant meningioma	32	47
Chordoma and Chondrosarcoma	27	33
Pineal region tumours	25	43
Hemangioblastoma	18	19
Jugular foramen schwannoma	15	17
Epidermoid cyst	14	17
Epilepsy	10	10
Uveal melanoma	7	8
Other	38	40

## GAMMA KNIFE

### *How it works*



With normal sunshine with parallel beams or rays you get Sunburned. If the rays are focussed through a magnifying glass you just get burned



The Gamma Knife focuses the parallel rays of radiotherapy and as with the sun makes a very intense field of radiation in a focus. Outside the focus no damage is done. Simple, elegant and effective

## Our scientific efforts in 2010:

We were proud that Dr Amr El Shehaby, the consultant neurosurgeon of our center had presented the GKC experience for the visual outcome after single-session gamma knife for perioptic meningiomas to the 15<sup>th</sup> international meeting of the Leksell Gamma Knife society that was held in Athens last May.



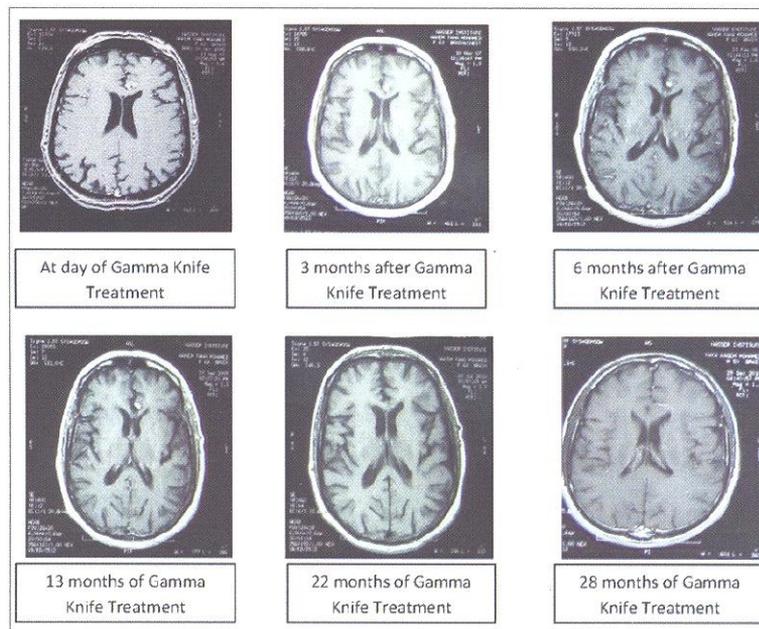
## And in 2011:

This month we are going to present our experience in treating the brain metastatic lesions of breast cancer origin to **the third Breast- Gynaecological International Cancer Conference** that is held in Cairo supported by **the European Society of Medical Oncology**.



Friday 14<sup>th</sup> January 2011  
**Gamma Knife for Metastatic Brain Lesions in Breast Cancer Patients**  
Prof. Khaled Abdel Karim, Egypt

And here we are demonstrating one of the metastatic breast cancer cases and her follow up images that showed the gradual decrease in the size and enhancement of the lesion till it was completely disappeared, such a response was maintained and the patient is doing well till December 2010 after 28 months of treatment



## Also in 2011:

We are also proud that our center is going to present three research presentation to the 10<sup>th</sup> Biennial congress of the International Stereotactic Radiosurgery Society next May in Paris:

- 1- Low dose gamma knife radiosurgery for nonfunctioning pituitary adenomas**  
Reda Wael\*, El-shehaby Amr, Abdel Karim Khaled, Roshdy Sameh
- 2- Long Term Results Of Gamma Knife Radiosurgery For Treatment of Intracranial Glomus Jugulare Tumors**  
Abdelkarim Khalid\*, Reda Wael, El Shehaby Amr
- 3- Visual Outcome after Single-Session Gamma Knife Radiosurgery for Perioptic Meningiomas**  
El-shehaby Amr\*, Reda Wael, Abdel Karim Khaled



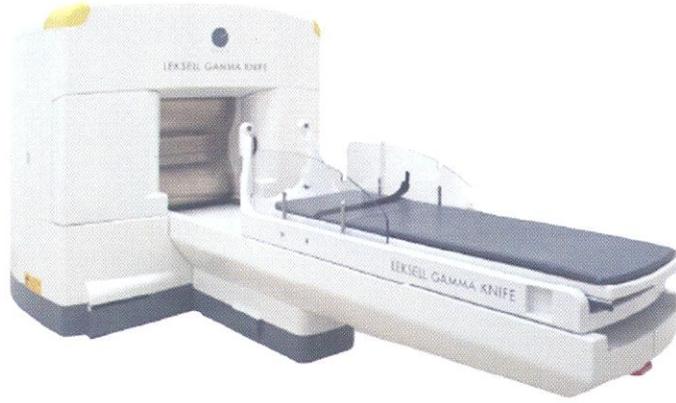
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## Gamma Knife Center plans for the future:

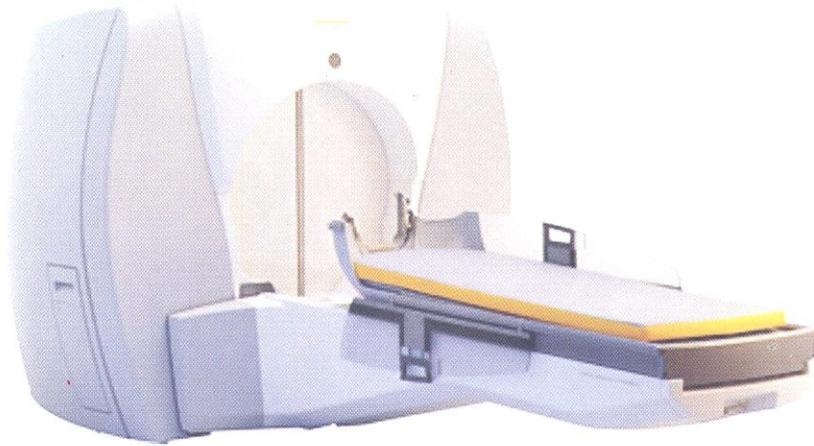
### In the year 2001:

We started to operate in Cairo with **Gamma Knife, C model** which was the state of the art at that time.



### And in the year 2011:

We are now in the process of updating our center to have the most recent advance in the radiosurgery field which is the **Gamma Knife Perfexion**, to continue our mission in providing the best updated medical service to a larger number of the patient according to the highest international standards.



## Important Information..

### The Treatment Steps

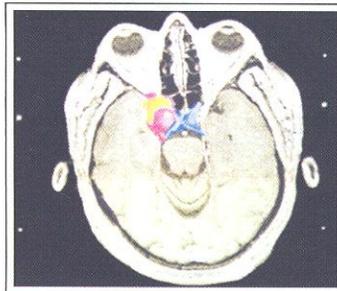
1. Application of the Frame.
2. MRI.
3. Treatment Planning.
4. Treatment.
5. Removal of the Frame.
6. Final Discussion.

## معلومات مهمة . .

### خطوات العلاج

- ١- تركيب الحلقة المعدنية.
- ٢- عمل أشعة الرنين المغناطيسي.
- ٣- تخطيط العلاج.
- ٤- العلاج.
- ٥- فك الحلقة المعدنية.
- ٦- شرح ما تم للمريض بعد العلاج

The image to the right shows the final treatment plan. The purple area is the tumour. The blue areas are the nerves from the eyes and the yellow area is shape of the treatment radiation. You can see the yellow is kept away from the nerves from the eyes to avoid hurting them.



الصورة توضح خطة العلاج النهائية. اللون البنفسجي يوضح الورم واللون الأزرق يوضح الأعصاب البصرية واللون الأصفر يوضح تغطية الورم بالإشعاع وكما يظهر من الصورة فقد حافظنا على أن يكون الإشعاع بعيداً عن العصب البصري لتجنب أي مضاعفات

# Gamma Knife

## Neurosurgery & Conventional Neurosurgery



## Frequently Asked Questions

### 1. What is radio surgery?

Radio surgery is the treatment of an illness within the brain in a single session with surgical precision.

### 2. Does the Gamma Knife use a laser?

No. The Gamma Knife uses rays like x-rays only more powerful.

### 3. Can Gamma Knife radiation stay in my body and be a risk to my family?

No. There is nothing left in your body that can damage those around you.

### 4. How many sessions of treatment are needed for the Gamma Knife?

Usually only one. If the illness is very extensive, then maybe two.

### 5. Can the Gamma Knife only be used in the head?

Yes. It is not possible to use it anywhere else..

### 6. Is the Gamma Knife only able to treat very small things?

No. The Gamma Knife can treat large objects, but we have to take care not to risk damaging normal brain tissues.

### 7. Can the Gamma Knife be used after ordinary radiotherapy?

Maybe. The answer will vary from patient to patient and case to case.

### 8. How long will I be in Hospital?

No time at all. The treatment is done as an outpatient procedure.

### 9. How long does the treatment take?

There are 4 stages. Putting on the frame takes about 10 minutes. MRI image take about 30 minutes. Treatment planning about 60 minutes. Treatment 60 to 90 minutes. Thus all in all it takes about 4 hours.

### 10. Will I need a general anaesthetic?

No. we give small children short bursts of sedation so they sleep through the bits of the treatment they don't like. Claustrophobic patients are also sedated.

### 11. it's called the Gamma Knife, does it cut?

Number It is called a Gamma Knife because the treatment is called radio surgery and surgery is done with a knife. But the Gamma Knife contains no blade and the treatment is bloodless.

### 12. Will I be shaved?

No.

١- ما هي الجراحة الإشعاعية؟

هي علاج مرض في الدماغ في جلسة واحدة وبدقة جراحية.

٢- هل تستخدم "الجامانايف" أشعة الليزر؟

لا. تستخدم فقط الأشعة مثل أشعة إكس أو السينية.

٣- يمكن أن يظل إشعاع "الجامانايف" في جسمي وتكون خطراً على أسرتي؟

لا. لا يبقى في جسمك ما يضر أحد.

٤- كم جلسة يحتاج علاج "الجامانايف"؟

عادة مرة واحدة فقط. وقد يحتاج المريض لجلستين إذا كان المرض منتشرًا.

٥- هل تستخدم هذه الطريقة فقط في الرأس؟

نعم. فقط بالرأس.

٦- هل طريقة "الجامانايف" فقط لعلاج الأمور البسيطة؟

لا. يمكن معالجة الأمور الكبيرة لكن لا ينبغي حيث تزداد المخاطرة على تلف الدماغ.

٧- هل يمكن استخدام هذه الطريقة بعد العلاج الإشعاعي العادي؟

ربما. لكن الأمر يختلف من حالة إلى أخرى.

٨- كم يلزم المكون في المشفى؟

لا يلزم. حيث تجرى في العيادة الخارجية

٩- كم تستمر المعالجة؟

هناك أربع مراحل. يحتاج وضع الإطار 10 دقائق. الرنين المغناطيسي 30 دقيقة. 60 دقيقة لتخطيط العلاج المعالجة ما بين 60-90 دقيقة. كل المعالجة تستغرق نحو 4 ساعات.

١٠- هل أحتاج لتخدير عام؟

لا. لكن يعطى الأطفال الصغار مسكناً ينامهم خلال المعالجة. وكذا يعطى مرضى الخوف من الأماكن المغلقة.

١١- اسمها "الجامانايف". فهل هناك قطع فعلاً؟

لا. اسمها كذا، لأن المعالجة تسمى الجراحة الإشعاعية، والجراحة تحتاج لمبضع، "الجامانايف". لا مبضع للجراح فيها ولا دم ينزف.

١٢- هل سيحلق شعري.

لا.



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