



Compassionate Care in the Comfort of Your Home:

# ENHANCING LIVES Through Personalized Care



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## PRECISION IN PRACTICE | PSG Hospitals' Expertise in Hepato-Biliary-Pancreatic Surgery

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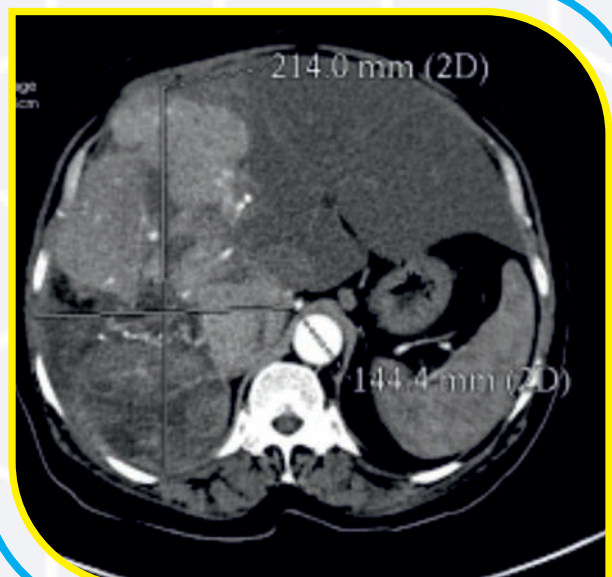
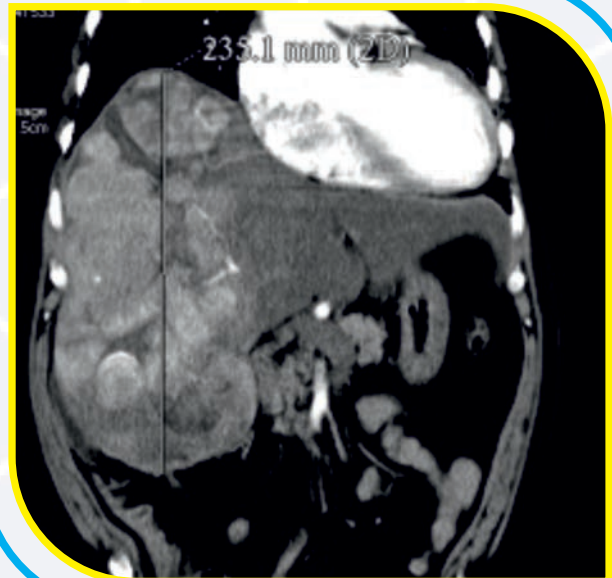
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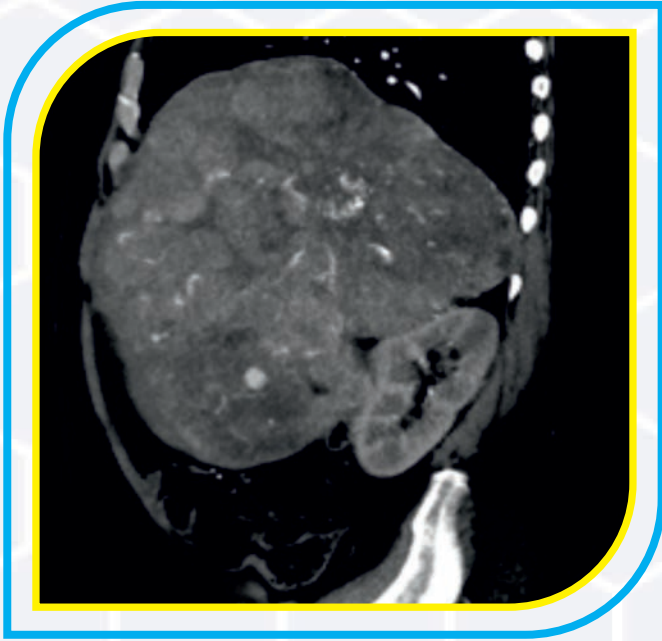
Hepato - biliary - pancreatic surgery demands unparalleled expertise and most advanced technologies to navigate the complexities of each case. At PSG Hospitals, we pride ourselves on our distinguished team of doctors who are at the forefront of innovation in this field.

Led by a cadre of skilled surgeons specializing in hepato-biliary-pancreatic surgeries, our hospital boasts a wealth of experience in

tackling even the most formidable cases. Our multidisciplinary approach brings together experts from various departments, including Liver Transplant, Cardiac Anesthesiology, Cardiovascular Surgery, Surgical Oncology, and Cardiac Perfusion, ensuring comprehensive and meticulous care for each patient.



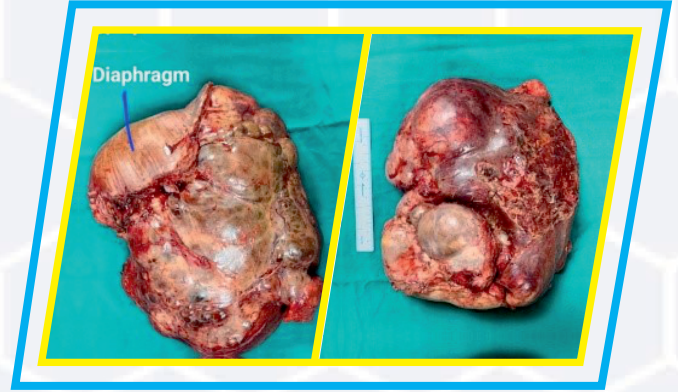




In a recent landmark surgery, our team successfully operated on a patient with a massive liver tumor measuring a staggering 22 X 21 X 14 CM and weighing approximately 3 kgs. This tumor intricately involved neighboring organs such as the kidney, colon, diaphragm, and IVC, presenting a daunting challenge. With precise preoperative planning and the utilization of advanced techniques, including open laparoscopic and Robotic Biliary and pancreatic surgeries, we executed an en-bloc total hepatectomy with IVC, back bench flush, and ex-vivo resection.

During the 14-hour procedure, our surgeons performed intricate maneuvers such as the cattell braasch maneuver and Kocherization, ensuring meticulous dissection and tumor removal. Utilizing an anterior approach for liver resection, we meticulously preserved critical structures while excising the tumor and a portion of the diaphragm. Through innovative methods like ex-vivo resection, where the liver

is temporarily removed from the patient, preserved, tumor excised, and then re-implanted, we achieved remarkable success.



Following the surgery, the patient experienced a swift recovery, being discharged just 9 days post-operation. Histopathological examination revealed hepatocellular carcinoma with tumor-free margins, underscoring the precision and efficacy of our surgical approach. At PSG Hospitals, we stand as a beacon of excellence in hepato-biliary-pancreatic surgery, offering unparalleled expertise, top notch facilities, and a commitment to exceptional patient care. Trust your complex surgical needs to our esteemed team, where every case is met with unwavering dedication and innovation.



**SANJEEVANI**  
**MEDICINES @ YOUR DOORSTEP**

மருந்து, மாத்திரைகள்  
டோர் டெலிவரி மற்றும் கூரியர் மூலமாக  
அனுப்பும் வசதி

Contact : **82203 33747**

PSG Hospital creates history, performs the

## WORLD'S FIRST EVER ROBOTIC CONGENITAL HEART SURGERY

In a groundbreaking achievement **Dr. C. Ananthanarayanan** a renowned senior consultant cardiac surgeon for PSG Hospital has successfully performed the world's first ever robotic congenital heart surgery, a significant milestone in the field of cardiac care in the country. In an exclusive interview, Dr. Ananthanarayanan shed light on the immense potential of robotic surgery, its advantages over traditional methods and the promising future it holds for patients of all ages.

### Breaking the Boundaries :

Dr. Ananthanarayanan highlighted that Robotic Heart Surgery has already demonstrated exceptional outcomes in some of the commonly performed cardiac procedures. Till now surgical Robots were used in treating adult patients and their diseases. Using surgical robot to treat complex congenital heart diseases is unheard of till now. We are happy that we could achieve this feat with the excellent precision of Robotic vision and could give results comparable to the traditional sternotomy approach. We see this as a significant step not only for our hospital, but also for the entire cardiac surgical society and the country as well.

### Embracing Technological Advancements :

Traditionally, open-heart surgery necessitates a sternotomy, cutting of the sternum [chest bone]. However, with the rapid advancements in technology and surgical techniques, surgeons transitioned towards minimally

invasive procedure, preventing the need for sternotomy. Dr. Ananthanarayanan emphasized that Robotic Heart Surgery represents the next evolutionary step in cardiac surgery. By harnessing the power of advanced robotics, surgeons can now perform intricate procedures with enhanced precision and minimal invasiveness.

### Advantages of Robotic Heart Surgery :

Robotic Heart Surgery presents a multitude of advantages that significantly benefit patients' post-operative experience. One notable advantage is the substantial reduction in post-operative pain, enabling individuals to return to their normal lives sooner than ever before. While typical heart surgeries required patients to rest for a month or more, those undergoing Robotic Heart Surgery can resume their regular activities within two weeks. The accelerated recovery not only enhances the overall recovery time but also minimizes the impact on their daily routines and responsibilities.

### Minimizing Blood usage :

Another noteworthy advantage of Robotic Heart Surgery is the minimal utilization of blood products. In conventional heart surgeries, patients often require transfusions of one or two units of blood and blood products. However, Robotic Heart Surgery significantly reduces or even eliminates the need for blood transfusion. This breakthrough not only benefits patients but also contributes to more



efficient healthcare practices, conserving valuable resources and reducing the risks of complications associated with blood transfusion.

## A Life-Altering success story :

Our success story is about a 15-year-old girl who developed breathlessness even while doing routine household activities. She was diagnosed to have a complex birth defect in her heart named as "Partial Atrio-Ventricular Canal Defect (P-AVCD)". The defect leaves a big hole between the upper chambers of her heart and under development of an important valve of her left heart (Mitral Valve) leading to leakage of blood from her heart in backward direction with every heartbeat. The correction of this defect involves two components, repairing the underdeveloped valve and closing the hole between the two upper heart chambers. Incidentally, during surgery, her right heart's valve (Tricuspid valve) was also malformed and required repair. Excitingly, Dr. Ananthanarayanan and his team with the able assistance of Dr. Saravana Rajamanickam [renowned robotic thoracic surgeon] could successfully correct all three defects inside her heart using a Surgical Robot. Astonishingly, the patient was discharged in just three days and is now on track to resume her studies within a week. The versatility of Robotic Heart Surgery paves the way for expanded treatment options, providing patients with safer and more effective alternatives.

## The Future beholds more surprises :

Dr. Ananthanarayan expressed with confidence that in future, even more complex

procedures might be feasible through Robotic Heart Surgery. PSG Hospital's advanced robotic systems provide a solid foundation for further advancements in this cutting-edge field.

Robotic Heart Surgery has ushered in a new era of cardiac care, offering enhanced outcomes, reduced pain, and quicker recovery times. PSG Hospitals, under the guidance of Dr. Ananthanarayanan, have emerged as pioneers in this revolutionary approach, poised to shape the future of cardiovascular surgery. As the medical community continues to embrace robotic technology, we can anticipate a time when even the most intricate cardiac procedures will be routinely performed using the remarkable precision and efficiency of robotic-assisted surgery.



**PSG Hospitals**  
**SUPER SPECIALITY**  
2000 Bedded Super Speciality Tertiary Care Hospital  
Peelamedu, Coimbatore - 641004

**ONE POINT SOLUTION  
FOR ALL YOUR HEALTHCARE NEEDS**

**Care built on  
trust & expertise**

**ETHICS | SCIENCE | QUALITY | PERSONAL CARE | AFFORDABILITY**

## VAIDYA - PSG Home Health Services

There is no place quite like home when recovering from an illness, injury or surgery, or managing an ongoing medical condition. When a health condition makes it difficult for someone to leave home, we bring a reliable healthcare service right at patient's doorstep. Our home Health service aims to provide high quality healthcare and superior patient experience at an affordable cost. We help people remain safely at home and live as independently as possible, be it during an acute ailment, injury or when recovering from surgery or living with chronic diseases. Our Home Health care can provide;

### Doctor @ Home

- Consultation & supervision by Family Physicians,
- Geriatrician & Palliative Care specialist.

### Nurse @ Home

- ECG.
- Wound dressing – chronic ulcers, pressure sores etc.
- Urinary catheterization.
- Tracheostomy and colostomy care.
- Injections and infusions.
- Enema.
- Medication advice.

### Physiotherapy @ Home

### Counselling therapies

### Lifestyle counselling services and yoga

### Podiatry

### Lab services @ Home- Blood investigations,

### Medicines delivered to Home

### Medical Equipment for Homecare

We work with patient and family to develop a plan that helps them manage their condition effectively at home.

### Services offered :

#### Transactional care

Patients can avail the services of our home health care for specific, individual one-time purposes as well. Our Doctors, nurses and physiotherapists are available for timely intervention.

#### Subscription programs

- Ortho Rehab – post knee replacement, hip and spine surgery.
- Neuro Rehab – post stroke, Parkinson's, post brain and spinal surgery.
- Elder Care – Mobility issues, falls risk management.

#### Long term care

- Chronic disease management – Diabetes, Hypertension, heart failure, renal failure, neurological conditions like Parkinson's, Dementia, post-stroke etc.
- Geriatric care.
- Palliative care.



## Co-ordination of care

Our team can help co-ordinate patient's care with specialists, Hospital visits and investigations

## Palliative Care

Palliative care is an approach that aims to improve quality of life of patients when facing life limiting medical ailments. Examples include patients with cancer, heart failure, advanced lung and kidney problems, and progressive neurological conditions like Parkinson's disease, Dementia etc. Our Doctors and nurses can help such patients have a good quality of life and avoid unnecessary trips to the hospital.

## Who can avail our services?

Our Home Care services can be availed by anyone disabled due to medical ailments. We do not have a set criterion, but we mainly cater to home bound and disabled patients who have difficulty in accessing hospital care.

## Benefits of Home Health Care

01. We provide Safety, Comfort and Convenience. Research shows that patients recover fast, with fewer complications, at home than in a hospital.
02. Relief for family Caregivers. Our team can educate family members about how to provide care and connect them with helpful resources. This can provide peace of mind and protect against caregiver burnout.
03. Prevents avoidable trips to the Hospital. Our team helps by providing regular monitoring of health condition. Patients also have access to a professional they can call if they are having troublesome symptoms and aren't sure what to do.

04. Avoiding unnecessary trips to the Hospital and admissions saves money. Home Healthcare is now covered by few medical insurances. Please contact us for more details.

05. Patients receive a care plan that is tailored to their specific needs. This makes treatment effective and builds trust among the patient, caregiver and home health care team.

06. In addition to receiving visits from the home health care team, it's easier for friends and relatives to visit loved one in their home than in hospital. With no restrictions, patients get more social interaction. This combats loneliness and brings the family together.

07. The Home Health care is an extension of the hospital services to the community. We continue to bridge the gap between hospital specialists and their patients, when patients cannot come to hospital. This continuity of care improves patient recovery and satisfaction.

## Services details :

- We cover a distance of 20kms from Our Hospital,
- Please note that we are not an emergency service- home visits are done for regular follow-up and continuum of care,
- Our office is in Room No. 38 on the ground floor of A block adjacent to Department of Radiology. Our extension number is 5038
- Our routine visiting times are between 08:00 am to 06:00 PM, Monday to Saturday.
- Our Helpline number is **+91-9952558666**, Landline : **0422-4345038**,
- Email: **homecareservices@psgimsr.ac.in**

## "SLEEP APNEA AND SNORING"

### What is Obstructive Sleep Apnea (OSA)?

Snoring is a pretty common sleep related complaint that patients present with. It is commonly ignored for years before the patient's spouse brings it to medical attention. Snoring is a result of turbulence of airflow within the upper airway. Over years of neglecting this symptom can result in repetitive, temporary, episodes of complete or incomplete cessation of airflow or breathing during sleep resulting in recurrent micro arousals or arousals from deep sleep to superficial levels of sleep. This disorder is called Obstructive Sleep apnea.

### What Causes The Airway To Collapse During Sleep. Several factors that can contribute to airway collapse are :

- Obesity - Extra tissue in the back of the throat, such as large tonsils or uvula.
- Short Neck.
- A decrease in the tone of the muscles holding the airway open.
- Nasal obstruction – Enlarged Adenoids
- Certain jaw or facial structures or attributes, such as a recessed chin.

Male gender, Obesity, Pregnancy, Cranio facial abnormalities (Downs Syndrome) Acromegaly, Hypothyroidism, Alcohol consumption, PCOD , Tobacco smoking and sedative usage are the major risk factors for OSA.

### How many people have OSA?

Statistics reveal that :

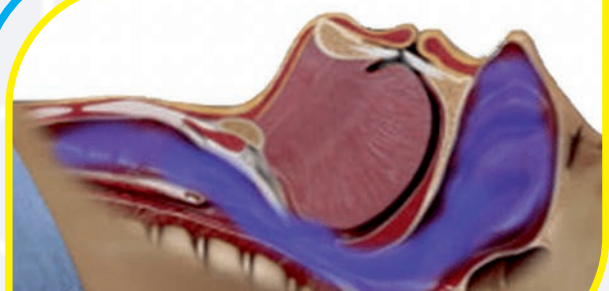
- 14 % of Indian males have OSA
- 6 % of Indian women have OSA
- Most OSA sufferers remain undiagnosed and untreated.

### Symptoms :

Loud Snoring is one of the commonest symptoms of OSA. Choking spells during sleep or observed cessation of breath during sleep might be reported in severe OSA. The other common symptoms are increased sleepiness during daytime, in spite of an adequate duration of night sleep. A few patients might also have symptoms of unrefreshing night sleep morning headache, difficulty concentrating, depression, irritability, and memory loss. Rest of the patient might get referred with uncontrolled hypertension, unexplained breathlessness – being treated as heart failure with preserved ejection fraction, arrhythmias.

### Normal Breathing :

- Airway is open,
- Air flows freely to lungs.

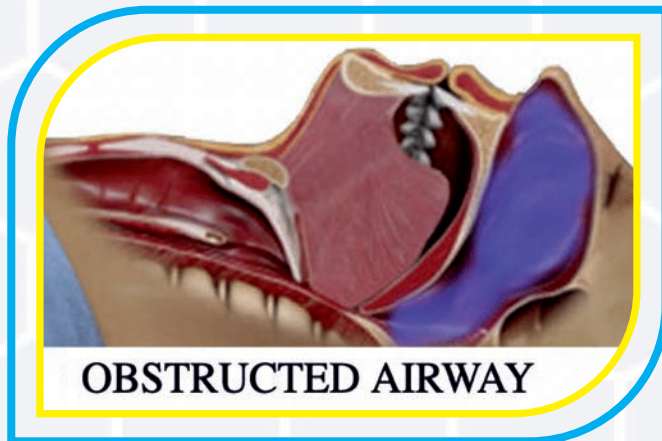


**NORMAL AIRWAY**



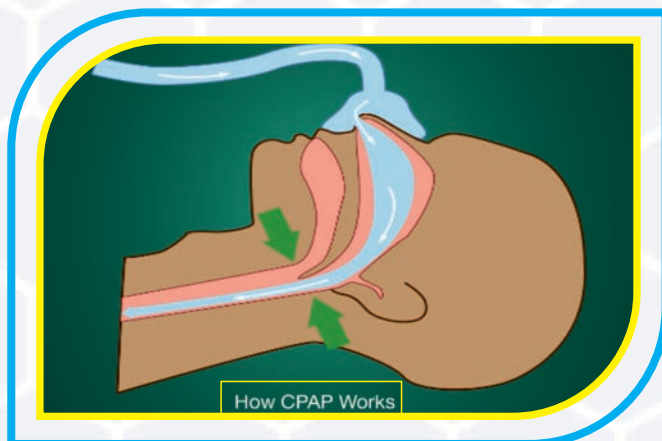
## Obstructive Sleep Apnea :

- Airway collapses,
- Blocked air flow.



## CPAP Therapy :

- Airway splinted open,
- Air flows freely to lungs.



## Consequences of OSA – What happens if OSA is not treated ?

People who do not seek diagnosis and effective treatment for OSA can be at increased risk for:

- Hypertension,

- Coronary Artery Disease,
- Stroke,
- Fatigue-related motor vehicle and work accidents,
- Decreased quality of life – Decreased Neuro cognitive function,
- Fatty Liver,
- Kidney related disorders.

## How is sleep apnea diagnosed?

Patients with risk factors and symptoms suggestive of OSA are screened with questionnaires like Berlins questionnaire, Modified Berlin Questionnaire, NoSAS Score and STOP BANG score, which is more of a pre operative screen. Epworth Sleepiness Scale is more of a treatment response assessment tool than used to screen for OSA.

Level 1 Polysomnography (PSG) (In Lab monitored Sleep Study with more than 7 parameters measured) is the gold standard for the diagnosis of Obstructive Sleep Apnea. Though a level 1 Polysomnography is not mandatory in all patients suspected to have OSA. A level 2 or even level 3 PSG should be sufficient in those patients who don't have a comorbidity like a chronic respiratory illness, neuromuscular disease / congestive heart failure or severe renal dysfunction.

Drug Induced Sleep Endoscopy is done to evaluate the level of upper airway obstruction in those patients who do not tolerate CPAP device and the etiology is non obese upper airway narrowing.

## What treatments are available for OSA?

The mainstay of treatment for OSA is CPAP – Continuous Positive Airway Pressure. CPAP is a device that delivers continuous positive airway pressure during sleep, thereby splinting the



collapsing upper airway open via an interface usually a nasal or oronasal mask.

A decision to use an auto titrating CPAP Vs a fixed pressure CPAP varies depending on individual patients. In general patient with cardiac / renal / neurological comorbidities tend to poorly tolerate auto CPAP. A proper In lab CPAP / BiPAP titration is warranted in those group of patients to decide on the exact pressures.

With CPAP therapy both the immediate and late complications of OSA are averted.

In those patients who don't tolerate CPAP, and in selected non obese OSA patients in whom upper airway narrowing plays a major role surgical correction can be considered after evaluation with Sleep endoscopy. Oral

appliances can be tried in a select group of mild to moderate OSA who don't prefer / tolerate CPAP therapy. Unfortunately, no medications/ drugs have been proved effective to treat OSA till date.



**SLEEP**

**DISORDERS**

**CENTER**

**Department of  
PULMONOLOGY AND  
SLEEP MEDICINE**

**Do I Have Sleep Apnea?** *Sleep Apnea & Snoring*

A man is shown sleeping in bed, part of a graphic for sleep apnea. The text "Do I Have Sleep Apnea?" is overlaid on the image, along with the text "Sleep Apnea & Snoring" in a stylized font.



# Berlin Questionnaire

## Patient Information

Height:

Age:

Weight:

Male/Female

Category 1 positive ( $\geq 2$ ) ☐

Category 2 positive ( $\geq 2$ ) ☐

Category 3 positive (1 or BMI  $> 30$ ) ☐

### Category 1

Do you snore?

- ☐ Yes  
☐ No  
☐ Don't Know

Your snoring is?

- ☐ Slightly louder than breathing  
☐ As loud as talking  
☐ **Louder than talking**  
☐ **Can be hear in adjacent room**

Describe the snoring frequency

- ☐ **Nearly every day**  
☐ **3-4 times a week**  
☐ 1-2 times a week  
☐ 1-2 times a month  
☐ Never or nearly never

Has your snoring ever bothered other people?

- ☐ Yes  
☐ No

Has anyone noticed that you quit breathing during your sleep?

- ☐ **Nearly every day**  
☐ **3-4 time a week**  
☐ 1-2 time a week  
☐ 1-2 time a month  
☐ Never or nearly never

### Category 2

How often do you feel tired or fatigued after you sleep?

- ☐ **Nearly every day**  
☐ **3-4 times a week**  
☐ 1-2 times a week  
☐ 1-2 times a month  
☐ Never or nearly never

During your wake time, do you feel tired, fatigued or not up to par?

- ☐ **Nearly every day**  
☐ **3-4 times a week**  
☐ 1-2 times a week  
☐ 1-2 times a month  
☐ Never or nearly never

Have you ever nodded off or fallen asleep while driving a vehicle?

- ☐ Yes  
☐ No

If yes, how often does it occur?

- ☐ **Nearly every day**  
☐ **3-4 times a week**  
☐ 1-2 times a week  
☐ 1-2 times a month  
☐ Never or nearly never

### Category 3

Do you have high blood pressure?

- ☐ Yes  
☐ No

BMI= \_\_\_\_\_

If your answer is 'Yes' to  $\geq 2$  of the highlighted text, you might have sleep apnea.

Signature \_\_\_\_\_ Date \_\_\_\_\_



