

# MMHS

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# CONFERENCE PROCEEDINGS

## BOOK OF ABSTRACTS MMHS-2020

International Conference on  
“Medical, Medicine & Health Sciences”  
(MMHS-2020), Bangkok, Thailand



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# **Book of Abstracts Proceeding**

International Conference on  
“Medical, Medicine & Health Sciences”  
(MMHS-2020)  
**Bangkok, Thailand**

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**International Conference on  
“Medical, Medicine & Health Sciences”  
Bangkok, Thailand  
Venue: Novotel Bangkok Ploenchit Sukhumvit,  
Thailand**

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## CONFERENCE CHAIR MESSAGE

**Dr. Malika Ait Nasser**

International Conference on “Medical, Medicine & Health Sciences” serves as platform that aims to help the scholarly community across nations to explore the critical role of multidisciplinary innovations for sustainability and growth of human societies. This conference provides opportunity to the academicians, practitioners, scientists, and scholars from across various disciplines to discuss avenues for interdisciplinary innovations and identify effective ways to address the challenges faced by our societies globally. The research ideas and studies that we received for this conference are very promising, unique, and impactful. I believe these studies have the potential to address key challenges in various sub-domains of social sciences and applied sciences.

I am really thankful to our honorable scientific and review committee for spending much of their time in reviewing the papers for this event. I am also thankful to all the participants for being here with us to create an environment of knowledge sharing and learning. We the scholars of this world belong to the elite educated class of this society and we owe a lot to return back to this society. Let's break all the discriminating barriers and get free from all minor affiliations. Let's contribute even a little or single step for betterment of society and welfare of humanity to bring prosperity, peace and harmony in this world. Stay blessed.

Thank you.

**Dr. Malika Ait Nasser**

Conference Chair

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MMHS-2020

## Conference Schedule

**DAY 01 Monday (Jan 20, 2019)**

**Venue: Novotel Bangkok Ploenchit Sukhumvit, Thailand**

09:00 am – 09:20 am	Welcome Reception & Registration
09:20 am – 09:30 am	Introduction of Participants
09:30 am – 09:40 am	Welcome Remarks – Conference Coordinator
09:40 am – 09:50 am	Grand Networking Session
09:50 am – 10:00 am	Tea Break



**DAY 01 Monday (January 20, 2020)**  
**Session 1 (10:00 am – 12:00 pm)**  
**Venue: Room 1**

**Track A: Medical, Medicine and Health Sciences**

<b>BAN-4120-102M</b>	Anatomical and walking function analysis in rat sciatic nerve injury model	Sasanthy Kusumaningtyas
<b>BAN-4120-103M</b>	Advantage and disadvantage of using Q1-Q2 angles comparing with SFI in walking analysis	Ria Margiana
<b>BAN-4120-104M</b>	New Perfusion Machine For Organ Preservation In Experiment	N. Khodeli
<b>BAN-4120-105M</b>	Portable Volumetric Blood Pump	Z. Chkhaidze
<b>BAN-4120-106M</b>	Morphological Changes In Liver After Of 8-Hour Preservation By Machine Perfusion	D. Kordzaia

**Closing Ceremony & Lunch Break (12:00 pm –01:00 pm)**

**DAY 02 Tuesday (Jan 21, 2020)**

## **City Tour and Shopping Day**

All respective guests are free to conduct their own sightseeing and tour. The second day of the event is reserved for this memorable purpose

**TRCAK A: MEDICAL, MEDICINE & HEALTH  
SCIENCES**

# Anatomical And Walking Function Analysis In Rat Sciatic Nerve Injury Model

Sasanthy Kusumaningtyas<sup>1\*</sup>, Ria Margiana<sup>2</sup>, Yurisqi Mukdisari<sup>3</sup>, Khoirul Ima<sup>4</sup>

**Abstract** Sciatica cases are a common condition of various incidents between 13%-40%. Standard methods of surgery, neurotherapy, and nerve graft have not been able to provide satisfactory results. Researches on cases of nerve injury and its regeneration factors are still wide open and it is important to study the nerve injury and its regeneration factors. In the evaluation process, observation of walking function was carried out to measure and determine the nerve function of sciatic nerve after an injury. Anatomical analysis is done by doing the macroscopic and microscopic observations. To determine the condition of the nerve structure and the emergence of post-injury scar. This study aimed to analyze and compare the ability to walk with the condition of tissue structures after the occurrence of injury, observed macroscopically and microscopically in sciatica rat model. This research is an experimental design study, the rats is divided into two groups : healing with scar and healing without scar. The observations were done using walking function and microscopic analysis. The method used has been developed in the preliminary studies. The nerves of rats treated with an injury were then reconnected by stitching. After the 7th postoperative day, the sciatic nerve was preserved with 10% buffered formalin. The observed variables were macroscopic and microscopic observations, walking ability, and scarring after healing. Macroscopic and microscopic observations were made using haematoxyline eosin staining method to observe the appearance of scar. The results of the analysis showed that in the observation of nerves regenerating without scar, the rats had a better ability to walk than those whose nerves regenerating with scar. The ability of nerves to heal well after injury can be measured by the method of walking function analysis and correlates with structural improvements that occur without the appearance of scars, observed microscopically.

**Keywords:** Anatomical Analysis, Walking Function Analysis, Sciatic Nerve

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\* All correspondence related to this article should be directed to Sasanthy Kusumaningtyas, Universitas Indonesia, Jakarta, Indonesia

# Advantage and disadvantage of using Q1-Q2 angles comparing with SFI in walking analysis

Ria Margiana\*

**Abstract** Introduction: Studies show the applicability of sciatic function index (SFI) and Q1-Q4 angles as parameters for walking analysis. However, scholars are questioning the effectiveness of SFI in offering conclusive evidence in walking analysis. This systematic review explores the advantages and disadvantages of using Q1-Q2 angles comparing with SFI in walking analysis. Method: The study is an article review based on secondary data from eight peer-reviewed articles derived from PROQUEST database and other online sources. Result: The findings show the benefits of using the Q1-Q2 angles compared to SFI since the former solves the problem associated with the latter. In particular, SFI results are affected by muscle contracture and auto-mutilation. Besides, the way that a rat walks and the walking speed affect the results of SFI in walking analysis. In contrast, measuring Q1-Q2 angles gives a consistent outcome. Therefore, Q1-Q2 angles stand out as a promising parameter that gives consistent results to show the difference between a normal and pathological hind limp of a rat. However, the applicability of SFI cannot be ignored since it is still an effective parameter for walking analysis. Conclusion: The strong positive correlation between Q1-Q2 angles and SFI presents a new possibility of using the two parameters together. Therefore, the former can be applied as the main parameter in walking analysis, while the latter can be used as references to confirm the results.

**Keywords:** Q1-Q2 angles, SFI, walking analysis

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# New Perfusion Machine For Organ Preservation In Experiment

N. Khodeli<sup>1\*</sup>, O. Pilishvili<sup>2</sup>, N. Inauri<sup>3</sup>, Z. Chkhaidze<sup>4</sup>

**Abstract** Machine perfusion for organ preservation shows encouraging results and is increasingly used in the clinic. For these purposes, we used a new portable perfusion apparatus, made on the basis of a universal volumetric blood pump of our own design. The machine is tested in 5 experiments on sheep weighing 20 kg. Under combined anesthesia, cardiac arrest was simulated, and after 15 minutes the right atrium and aorta were cannulated using special cannulas, the bladder and common bile duct were catheterized. Controlled extracorporeal systemic perfusion with native blood was performed in situ with an increasing productivity in the pulsating mode of 150 beats/min for 8 hours. Permanently measured systemic arterial pressure (AP) and central venous pressure (CVP), blood flow in the abdominal aorta, common hepatic and renal arteries, caudal vena cava and portal vein. Body temperature was maintained within 37,5 38,0 C. Amount of urine, bile, volume of transfusion and temperature were recorded. Morphologically evaluated the state of the liver, kidneys and pancreas. One experiment failed. In 4 rest experiments mean AP and CVP were within 78-95 mm.Hg and 5-8.6 mm.Hg respectively. The blood flow, realized by the apparatus, in the abdominal aorta and caudal vena cava varied between 980-1150 ml/min/kg and 350-420 ml/min/kg respectively. The same parameter did not significantly differ from normal values on other registered vessels throughout the experiment. Marked the release of bile from 25 to 40 ml; urine excretion from 80 to 140 ml; the total volume of transfusion did not exceed 1200 ml. The machine we developed allows us to perfuse organs in an animal's corpse within 8 hours without critical physiological disorders and permissible morphological changes in some abdominal organs.

**Keywords:** Organ preservation, Controlled extracorporeal circulation, Blood flow, Arterial pressure

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# Portable Volumetric Blood Pump

Z. Chkhaidze<sup>1\*</sup>, O. Shengelia<sup>2</sup>, D. Songulashvili<sup>3</sup>, N. Khodeli<sup>4</sup>

**Abstract** Portable blood pumps continue to be developed for specific purposes. The volumetric blood pump created by us is recommended for use in portable perfusion systems for artificial blood circulation, the purpose of which is extracorporeal cardiac resuscitation or organ preservation. The volumetric blood pump consists of two chambers with rigid walls and internal polyurethane blood bags with inlets and outlets. The rigid chambers are connected by a reversing roller pump, which cyclically transfers inert liquid under pressure from one chamber to another. Accordingly, the blood bags alternately in antiphase are filled and emptied with blood. The inlets and outlets of the bags are equipped with external controlled obturators. Automatic switching of these obturators ensures continuous transfer of blood into the body and from the body to the pump. At the exit of the arterial line placed controlled external pulsator. There are no moving parts in the pump that could cause hemolysis Bench tests revealed the following characteristics: blood bags of any size can be placed in stiff-walled chambers, which allows arbitrarily changing the volume of the primary filling and carry out perfusion on almost any experimental model; using a reversing roller pump does not require an expensive flowmeter to control the volume of blood flow; pump capacity can reach 10 liters per minute or more; output pressure 0-200 mmHg pulsation frequency can be arbitrarily adjusted within 0-250 beats per minute. The volumetric blood pump in simulated perfusion schemes provided optimal both systemic and organ hemodynamic parameters. The final characteristics of the new pump will be formulated after testing on experimental animals.

**Keywords:** Volumetric Blood Pump, Blood Bags

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# Morphological Changes In Liver After Of 8-Hour Preservation By Machine Perfusion

D. Kordzaia<sup>1\*</sup>, N. Khodeli<sup>2</sup>, Z. Chkhaidze<sup>3</sup>, L. Gogiashvili<sup>4</sup>

**Abstract** Patients with refractory cardiac arrest, who have undergone Extracorporeal Life Support (ECLS) for resuscitation, but have not achieved cardiac recovery, can be considered as potential donors (Cardiac Death Donors). In such cases, it takes time to notify and obtain the principle consent of the relatives and finalize the clinical and legal documents. During this time, prior to obtaining consent for the removal of organs, ECLS can be extended. In this case, the extracorporeal circulation implies organ preservation "in situ" until the ethical, religious and organizational problems should be decided. Correspondingly, the identification of safe time terms during which the donor organs do not suffer by the changes not compatible with transplantation is extremely important. the morphological changes in the liver after 8 hours of extracorporeal circulation in experiments. The investigation was performed on 6 sheep with simulated cardiac arrest and undergone 8-hours extracorporeal circulation with own blood by using of new portable perfusion apparatus, made on the basis of a universal volumetric blood pump of our own design. The biopsy of the liver was performed before the starting of perfusion, and on 4 and 8 hours of the experiment. The histological slices were stained by H&E and were assessed by standard criteria: level of steatosis (large-droplet macrovesicular steatosis [ld-MaS] and/or small-droplet macrovesicular steatosis [sd-MaS]); mononuclear portal inflammatory cell infiltrates; bile ductular proliferation; cholestasis; venous congestion; hepatocellular necrosis. Before the perfusion, no venous congestion, hepatocellular necrosis or ld-MaS were observed; Less than 3% of cells were suffered by sd-MaS; mononuclear portal inflammatory cell infiltrates were found only in several areas. Similarly the mild venous congestion was present in 1 out of 6 livers after 4-hours perfusion and in 2 out of 6 livers after 8-hours Perfusion. The number of necrotic hepatocytes and portal triads infiltrated with mononuclear cells did not exceed 10% and 15% accordingly. However, there were no differences in the degree of biliary damage cholestasis or ductular proliferation - correlating with the terms of the experiment. Taking into the account all internationally accepted criteria of donor liver histological assessment, 8-hour "in situ" perfusion of the liver in Cardiac Death Donors by using of the machine of own design providing the pulsatile blood flow guarantees the satisfactory preservation of liver making it useful for successful transplantation.

**Keywords:** Liver preservation, Machine perfusion

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# ***VISION***

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***Our vision is to promote  
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networking Platform.***

