



# Científico

**CIENTÍFICOS CON VALOR HUMANO**

JANUARY 2020 YEAR 1 NUMBER 1

## Arias Medical Foundation

ICES... more than 10  
years of history

Early care and age of  
independent walking  
acquisition for children with  
Down syndrome

Depression

Physiotherapy and Mental Health



**ICES**

Instituto Científico de Educación Superior

Científicos con Valor Humano



# PHYSICAL THERAPY DEGREE



**REGISTRATIONS  
OPEN!**

**WEBSITE /** 

[www.icientifico.com](http://www.icientifico.com)

Fan page ICES OFICIAL

**ADDRESS**

Paseo de las palmas No. 19

Fracc. Veracruz,

Xalapa, Ver. C.P. 91020

**PHONE NUMBER**

(228)8 43 51 59

(228)2 90 56 81

**SCOLARSHIPS**

## Editorial committee

### Director

Lic. Wara Stephanie Arias Ruiz

### Scientific committee

Dra. Rosalba León Díaz

### Coordination and editing

Ing. Isela Bandala Mendoza

Ing. Jair Arturo Coria Martínez

### Research committee

Lic. Martha Elena Sánchez Silva

LTF. Jesús Adrián Piñuela Pérez

## School directory

### Rector

Dr. Luis René Arias Villarroel

### Vice-rector

Lic. Sandra Arias Villarroel

### Director

Dra. Alicia Cervantes Ortiz

### Vice-director

Psic. Miguel Alarcón López

## sponsors



ARIAS  
MEDICAL  
CLINIC

# Content

## Arias Medical Foundation

Page 3

## ICES... More than 10 years of history

Page 6

## Curious notes

Page 10

## In the voice of:

Dr. Luis René Arias Villarroel

Page 11

## ICES and science

Early care and age of independent walking acquisition for children with Down syndrome

Page 12

## About

Depression

Page 13

## Omnia physiotherapy:

Physiotherapy and Mental Health

Page 15

## ICES humanitas

Clinical Diagnostic Dueling

Page 16

RVP Training by Sandra Fariña

Page 17

WE ARE A NON-PROFIT,  
NON-GOVERNMENTAL  
INSTITUTION THAT WORKS FOR  
GOOD OF OUR SOCIETY.



ARIAS  
MEDICAL  
FOUNDATION

## ABOUT US

### Dr. Luis René Arias Villarroel MD, PhD.

Arias Medical Clinic open its first unit in the city of Xalapa, on January 7, 2006. Subsequently, and after the success, it extended to the Port of Veracruz, in 2009. Recently, at the request of a huge number of clients who traveled to attend, decides to open two new units, Coatzacoalcos, in November 2012. And Huatusco. Dr. Luis René Arias MD, PhD. Is a dedicated specialist and backed by years of experience, his vast knowledge and his vocation of service

have led him to the field of Phlebology and Lymphology, as well as in other areas of the human body. Originally from La Paz, Bolivia, and naturalized Mexican, he studied basic school in his native country, culminating the superiors at the Universidad Veracruzana. He complemented his apprenticeship at Universidad Real and Pontificia San Francisco Xavier de Chuquisaca in Sucre, Bolivia. He has extensive studies in endovascular techniques, varicose veins and sclerotherapy



## SCIENTIFIC INSTITUTE OF HIGHER EDUCATION (XALAPA, VER. MEX.)

### AS RECTOR

of the Scientific Institute of Higher Education "ICES" (by its acronym in Spanish) in Xalapa, member of the Mexican Society of Phlebology and Lymphology, member of the Pan-American Phlebology Society and Doctor of Sciences. All this preparation are the pillars of Arias Medical Clinic, one of the best clinics worldwide.



### OUR MISSION

We want to be an organization that generates processes of participation and social empowerment, providing solutions to problems in the academic, scientific, cultural and all those related to the common good

### OUR VISION

Become the most important phlebology clinic in the region, by recognizing the high professional preparation of our team and the most advanced technology in our facilities, thus achieving leadership in health services.



**“WE HOPE YOU CAN JOIN US TO HELP”**

### ICES AWARDS 2018



“It doesn't matter if you were a winner or a loser in your past. It doesn't matter if you want to be the best and no longer the worst in your future. The only thing that matters is what you do today. If you put all your attention on only what you're doing at this moment. Then you'll be successful”

Dr. Luis René Arias Villarroel MD, PhD.

The Scientific Institute for Higher Education and Arias Medical Foundation of Mexico, recently presented the annual "Award for Excellence" in the city of Xalapa, Ver. Mexico where Bolivian and Mexican guests attended. The Rector of ICES, Luis René Arias Villarroel was accompanied by his family and presided over the event. He personally presented the award from the foundation and the The Scientific Institute for Higher Education. (ICES by its acronym in Spanish)

On this occasion, the Bolivian doctor highlighted the work and professional career of the nominees to the present management, the scope of the institute and the foundation, which began its management at the international level. The award was given to professionals who stand out in their fields in different countries, such as doctors Segio Giancesini from Italy, Javier Machi and Jose Luis Aguirre from Argentina,

and Imai Takahiro from Japan. Among the winners were also Fernando Alvarez from the newspaper Las Americas of USA and president of the Bolivian-American Chamber of Commerce, Coral Valdivieso from Arias Medical Clinic; Francisco Muñoz Ruiz, director of Tv Azteca Veracruz; the Mexicans Julieta Villarroel Arze, Lauro René Aguirre, Francisco Javier Muñoz, Judith Dominguez, Yazmin Montes, Rosenda Vera, Roque Marcial, Concepción Escalante.



## BY ARIAS MEDICAL FOUNDATION



MARK WHITELEY

Hector Elias Muñoz, Harzyskowiak Cuellar, Citlalli Garcia, Fernando Aguirre and Sandra Arias; Bruna Zanardo from Brasil Ellie Lindsay Obe and Mark Whiteley from England, Veronique Lefeuvre from France, Ernesto Intriago from Ecuador, and José Ramón from Costa Rica, while for Bolivia were nominated; Hector Elias Niño, Tatiana Zeballos, from Tv Amiga of the city of Cochabamba, Milton Cortez, María René Iturri from Agronat, and Mario Daza Castellón from El Diario. The Bolivian Ambassador in Mexico, José Crespo, was also present at this ceremony.



DR LUIS RENÉ ARIAS VILLARROEL MD PHD AND HIS MOTHER JULIETA VILLARROEL.

## ICES... More than 10 years of history

The Scientific Institute of Higher Education (ICES) began operations in April 2006, presenting itself as a pioneering institution of its kind in the state of Veracruz, offering two degrees in the field of Rehabilitation: Physical Therapy and Occupational Therapy. From that moment until today, 10 generations and more than 300 students have graduated from the career with the highest demand for our institution: Physical Therapy. In the words of the Rector, Dr. Luis René Arias Villarroel, "the creation of ICES began with a bank table", four students and a reduced teaching staff composed mainly by doctors. As time went by, the educational demand increased, so much so that we are the faculty with the largest number of students enrolled (approximately 130). The teaching staff has also been strengthened and today consists of 28 professors, from the areas of physiotherapy, medicine, biology, psychology, and engineering, with specialization in their field. All to professionally trained physical therapists who are known for excellence in their service.

Fulfilling ICES' mission, the Diploma in Physical Rehabilitation was also created, in which more than 400 professionals from different areas (physical education, doctors, biologists, etc.) have been trained.

Both have been trained in the very essence of physiotherapy, that is, to use, promote and optimize natural healing



procedures, for the recovery of the patient's functionality.

The word physiotherapy comes from the Greek physis (φύσις) 'nature', and therapéia (θεραπεία) 'treatment', and as a discipline of the health sciences it seeks to provide diagnosis, prevention, and treatment of symptoms of multiple ailments, both acute and chronic, and to give non-pharmacological therapeutic and rehabilitation treatment, using physical agents such as electricity, ultrasound, laser, heat, cold, water, manual techniques such as stretching, traction, massage, etc. Its study for professional practice requires knowledge of human anatomy and physiology, biochemistry, genetics, psychology, rehabilitation techniques, physical agents, etc., which are based on the scientific method.

### Institutional mission

To educate and train health professionals, better preparation, which allows them to intervene scientifically and humanely in the treatment, prevention and rehabilitation of diseases that afflict society, to develop skills, values and knowledge at the forefront of the country.

### Institutional Vision

To be a leading institution in the field of health, education, and research, for the training of professionals, who contribute to the increasingly demanding needs of today's society.



Ninth generation graduate of the Scientific Institute of Higher Education



ARIAS  
MEDICAL  
CLINIC



ARIAS  
MEDICAL  
CLINIC

# VÁRICES Y ÚLCERAS

**Xalapa, Veracruz.**

Paseo de las Palmas No. 19  
Fracc. Veracruz  
C.P. 91020  
T. (228) 40 86 67

**Veracruz, Veracruz.**

Plaza Santa Ana Local 15  
Boca del Río, Ver.  
C.P. 91298  
T. (229) 20 20 325

**Coatzacoalcos, Veracruz.**

Av. Lázaro Cárdenas No. 813  
Esq. Abasolo.  
Col. Centro  
T. (921) 21 29 002

**Huatusco, Ver.**

Clinica San Antonio  
Av. Oriente 2 No. 345  
T. (273) 734 18 94

[www.ariasmedical.com](http://www.ariasmedical.com)

TRATAMIENTO CON  
ESCLEROTERAPIA  
SIN CIRUGÍA, SIN REPOSO,  
ABSOLUTAMENTE  
SENCILLO Y RÁPIDO  
CON LA ÚLTIMA  
TECNOLOGÍA  
VASCULAR  
BRITÁNICA



ARIAS MEDICAL CLINIC



ARIAS MEDICAL CHANNEL



ARIAS  
MEDICAL  
CLINIC



ARIAS  
MEDICAL  
CLINIC

Electrotherapy

Therapeutic ultrasound

Whirlpool bath

Kinesiology Tape

Therapeutic Exercise

Massotherapy

Application of suction cups

Thermotherapy

**PHYSICAL THERAPY**



ARIAS MEDICAL CLINIC



ARIAS MED CHANNEL

Paseo de las palmas | Phone number: | Site  
No. 19 Fracc. Veracruz | (228)8 40 86 67 | www.ariasmedical.com

# Physical therapy

# Nutrition and dietetics

ARIAS  
MEDICAL  
CLINIC

*by appointment*

**LIC. IVON BANDALA**  
**NUTRIOLOGIST**

- Pre-obesity and Obesity
- Diabetes
- Triglyceride and cholesterol control
- High Blood Pressure
- Metabolic Syndrome
- Nutrition in pregnancy
- Breastfeeding counseling
- Hygiene management advice of the food.

*Xalapa*  
Paseo de las palmas 19 Fracc. Veracruz  
Tel: (228) 843 51 59

*Boca del río*  
Plaza Santa Ana No. 15  
Tel: (229) 20 20 325

Arias Medical Clinic  
 Nutricionconivon



### **ICES has some curious facts and these are some of them**

4 students were the graduates in the first generation.

In the first generation only 8 teachers taught at ICES.

Currently 10 generations have graduated and more than 300 students and 66 have professional degrees.

In 2019 there was an average of 28 teachers per semester.

**Dr. Luis René Arias Villarroel**

**"We have the first and best therapists  
in the state and why not say the  
country"**



ICES has been created based on the needs of health therapists identified in the community. We are the first school in the state of Veracruz in Physical Rehabilitation and we have the first and best therapists in the state and why not say the country. Our therapists practice in Argentina, in the United States and we are currently working to generate a project in the coming years with Germany, Italy and Paraguay, which we hope to make available to all of you.

Dr. Luis René Arias Villarroel  
Rector of the Scientific Institute of Education Superior

### Early care and age of independent walking acquisition for children with Down syndrome

Mercado OMA, Piñuela PJA, Arias L, León-Díaz, R\*.

Early Care (ECC) is the set of educational or treatments designed to prevent or improve possible alterations or an already existing deficiency in a given child population<sup>1</sup>. These programs provide the child (with an altered course of development) with activities appropriate to their characteristics to mitigate developmental delay. Walking is one of the human capacities that require a level of functional maturation, which demands interaction and knowledge of the environment of the individual who develops it. Therefore, in patients with an altered course of development, such as children with Down syndrome, it is ideal to perform TA interventions to reach developmental milestones at earlier ages. In this regard, it has been described that children with DS acquire gait in an average time of 27.4 months<sup>2</sup>. A study was carried out in Mexico in which the effect of TA on gait acquisition was observed in a sample of 15 children with DS (♀ 6: ♂ 9. Mean age: 4.9 years; 40% at 5 years, while 33.3% were 6 years old). The results showed that the children developed walking in an average time of 28.93 months, which is similar to the international average<sup>2</sup>.

In this sample, the average age of onset of TA was 13.8 months, and 80% of our sample received TA before the age of 2 years, for periods longer than 60 minutes. When parents were asked about the causes of delay in receiving TA, 40% reported a lack of information, time, and financial resources. The evaluation with the Denver Scale noted that our sample has a lag in the independent walking acquisition of 15 and 21 months. Correlation analysis (Pearson) found a value of  $r= 0.87$ , indicating a direct relationship between the age of onset of TA and gait acquisition. With these data, we conclude that it is necessary to initiate TA early in children with DS to promote gait acquisition (and other developmental milestones) earlier.

## Depression

Depression is defined as "a mental illness in which a person experiences deep sadness and decreased interest in almost all activities" (American Psychiatric Association).

It is now recognized as part of mood disorders and includes major depression and dysthymia (chronic depression). These disorders are characterized by an alteration in mood associated with discomfort and disability, as well as the risk of losing one's life, suffering pain or losing one's freedom. Depression impacts mood and generates changes in personal habits and behaviors such as loss of appetite, fatigue, sleep, cognitive difficulties, excessive guilt, and suicidal ideation, among others <sup>1,2,3</sup>.

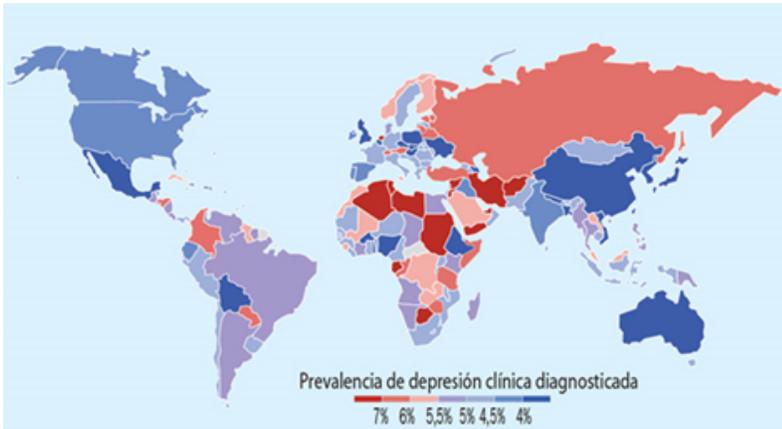
More than 4% of the world's population lives with depression and it is more prevalent among women, young and old. Its origin is multifactorial: genetic load, psychological trauma and/or vascular accidents, psychosocial factors such as life events, economic and political crises, etc., and despite the existence of treatment for it, only half of those affected, in the world, receive treatment (WHO, 2018).

Depression affects the functionality of those who suffer from it and is one of the main causes of disability in the world. It is associated with abstention from work, and 9-16% of the days of disability are due to depression.

**¿PRESENTAS AL MENOS 5 DE ESTOS SÍNTOMAS?  
TEN CUIDADO, PUEDE SER DEPRESIÓN.**

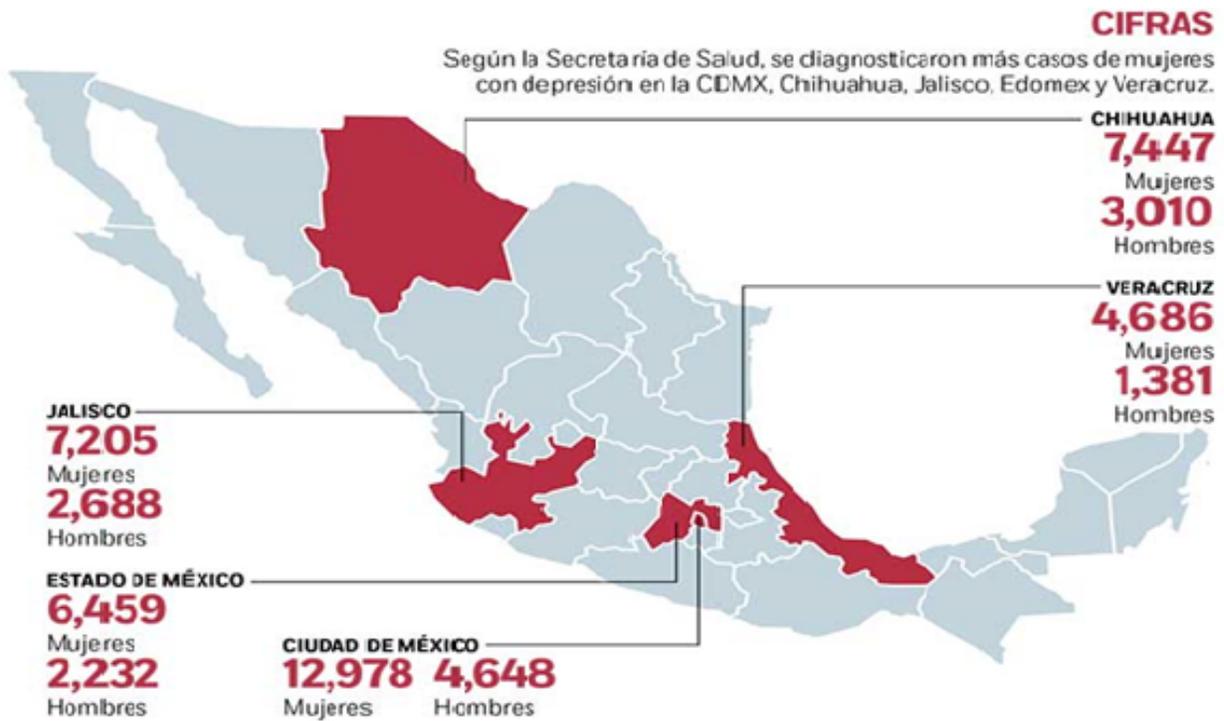


FUENTE: Voz Pro Salud Mental Ciudad de México



Depression is the second leading cause of disability worldwide. A map, with data on the incidence of this disease, shows that it is in the most unsuspected places.  
 Source: Article from Plos Medicine Magazine

In Mexico, it is estimated that between 5.8 and 10% of the population lives with depression. According to DSM IV criteria, minor depression occurs in 9.8% of the population, while major depression occurs in 1.8%. In older adults, the prevalence is 9.5% in women and 5% in men, and is related to the presence of chronic disabling diseases<sup>3</sup>.



1 American Psychiatric Association. Diagnostic and Statistical Manual of Mental Disorders DSM-IV. American Psychiatric Association, (1994),

2 American Psychiatric Association. Diagnostic and Statistical Manual of Mental Disorders: DSM-5. American Psychiatric Association, (2013),

3 Saavedra-González AG, Rangel-Torres SL, García-de León Á, Duarte-Ortuño A, Bello-Hernández YE, Infante-Sandoval A. Depresión y funcionalidad familiar en adultos mayores de una unidad de medicina familiar de Guayalejo, Tamaulipas, México. Aten Fam 2016; 23

## Physiotherapy and Mental Health

Physiotherapy seeks to improve or recover the body's functionality, which has an impact on the quality of life of patients, and ultimately on their well-being. In other words, the patient's physical and mental state is such that it provides a feeling of tranquillity and satisfaction. Therefore, we can say that physiotherapy has a great impact on mental health.

In the literature, there are numerous reports on the impact of this medical discipline in the treatment of mental disorders such as autism spectrum<sup>1</sup>, ADHD<sup>2</sup>, anorexia, depression, anxiety<sup>3</sup>, etc.

These last two are the most prevalent mental health disorders in the world and are characterized by affecting work capacity and productivity.

"More than 300 million people in the world suffer from depression, a disorder that is the leading cause of disability, and more than 260 million have anxiety disorders" (WHO, 2019).

Physical therapy has impacted on improving the physical health of the patient with depression and anxiety and has contributed to reducing the symptoms of psychosocial condition. For example, improvement in mood has been reported in patients who perform posture-correcting exercises, and that exercise (as a regimen) improves the sense of well-being.

<sup>1</sup>Jorge J. Cazorla González, Josep Cornellà Canals. (2013). Un proyecto terapéutico: Las posibilidades de la fisioterapia en el tratamiento multidisciplinar del autismo. Revista de Psiquiatría Infanto-Juvenil. Vol. 30 Núm. 4  
Vol. 30 Núm. 1 (2013)

<sup>2</sup>David Araguas Maldonado, Ester Aranda Salom, Ludovic Aumjaud, Alfons Fina Pla, Miquel Puig Parnau, David Ruiz Gispert, Cristina Torres Pascual, Josep Cornellà i Canals. (2013). Hacia la interdisciplina en el tratamiento integral del TDAH: aportación desde la fisioterapia. Revista de Psiquiatría Infanto-Juvenil. Vol. 30 Núm. 4

<sup>3</sup>Commissioning Mental Health Services: the contribution of physiotherapy to integrated services for health and wellbeing. (s/f) The Chartered Society Of Physiotherapy.

<sup>4</sup>OMS (2019). <https://www.who.int/es/news-room/fact-sheets/detail/mental-disorders>

## Clinical Diagnostic Dueling

As part of the development of skills to integrate theoretical elements with clinical diagnosis, on 12 December 2019, first semester students of Neuroanatomy participated in a "Duel of Clinical Diagnostics". This consisted of providing an accurate diagnosis of a case, considering the anomalies present in the structures of the nervous system. The final verdict was given by Dr. Yazmin E. Montes, head of the subject and the winners of the Duel were the students José Manuel Forzán, Alberto Chiu, Aldo Sánchez, and Liliana Castillo, from group 102.

In the words of Dr. Guevara "the duel ... was the opportunity of the students to show their great talent, as they are making very accurate diagnoses with some brain structures, which we have reviewed in the academic program.



Dra. Yazmín E. Montes.



The event took place in the institute's auditorium and was attended by students.



Participants of group 102, winners of the duel.

## RVP Training by Sandra Fariña

As part of its commitment to society and academia, ICES organized and sponsored the Peripheral Vascular Rehabilitation (PVR) Training. The RVP is a set of therapeutic methods and maneuvers aimed at promoting venous, lymphatic and arterial flow returns, to improve the quality of life of the patient by reducing the signs and symptoms of diseases such as edema, lymphedema, circulatory ulcers, elephantiasis, surgeries, trauma. It is also an important tool in the area of sport to achieve a more effective and rapid recovery from injuries, as well as to avoid the risks of complications such as residual edema, infections, ulcers, amputations, lymphedema, V.C.I., edemas, etc. PVR helps us to shorten recovery times and work on prevention in the following areas: Peripheral Vascular, Oncology and Traumatology. The objective of this training was to develop skills, strategies, and criteria and to provide solid knowledge based on scientific evidence for the treatment of vascular, traumatological, sports and post-operative pathologies that require physiotherapeutic management. The specialist in charge of giving the valuable training was Sandra Verónica Fariña, a kinesiologist, peripheral vascular, sports and traumatology rehabilitation specialist from the University of Mendoza, Argentina. She is professor and honorary member of the Mexican Venous Forum, in charge of the Peripheral Vascular Rehabilitation Area at the Instituto Flebológico Terra (Argentina), tutor of the Vascular Rehabilitation Specialty Area at the Simón Bolívar University (Colombia), and member of the Latin American Association of Vascular Surgery and Angiology.



Participants of the RVP Training with Sandra Fariña and Sandra Arias Villarroel.



ARIAS  
MEDICAL  
CLINIC



[www.ariasmedical.com](http://www.ariasmedical.com)

#### LA PAZ



Calle 1. Los Pinos.  
Edif. Oscar - Subsuelo  
TEL: 2790720  
CEL: 68184000  
73765346

#### SANTA CRUZ



Av. Cañoto No. 583  
Centro Médico Niño de  
Jesús 4to. Piso  
Consultorio No. 405  
TEL: 33143161  
CEL: 68184000  
73765346

#### COCHABAMBA



Edif. Guadalupe  
Calle Colombia, casi Esq.  
16 de Julio Segundo Piso  
Consultorio No. 205  
TEL: 4512536  
CEL: 68184000  
73765346

#### EL ALTO



Av. Satelite No. 760  
Edif. Corazón de Jesús  
Frente a emergencias del  
Hospital Holandés  
TEL: 2812463  
CEL: 68184000  
73765346



BEFORE



AFTER

VARICOSE VEINS AND ULCERS

SCLEROTHEPARY  
TREATMENT  
WITHOUT SURGERY,  
WITHOUT REST  
FAST AND SIMPLE  
WITH THE LATEST  
BRITISH  
VASCULAR  
TECHNOLOGY



ARIAS MEDICAL CLINIC



ARIAS MED CHANNEL

# ICES

"SCIENTISTS WITH  
HUMAN VALUE"



Paseo de las Palmas  
No.19 Fracc.  
Veracruz, C.P. 91020  
Xalapa, Veracruz



228 843 5159



ICES OFICIAL



[www.icientifico.com](http://www.icientifico.com)



[stephanieariasruiz@hotmail.com](mailto:stephanieariasruiz@hotmail.com)  
[icientifico@hotmail.com](mailto:icientifico@hotmail.com)