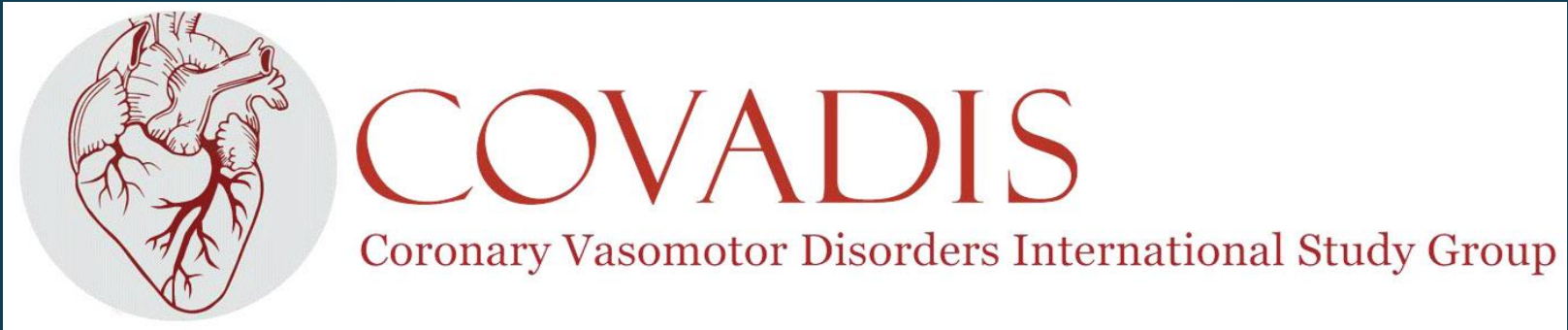
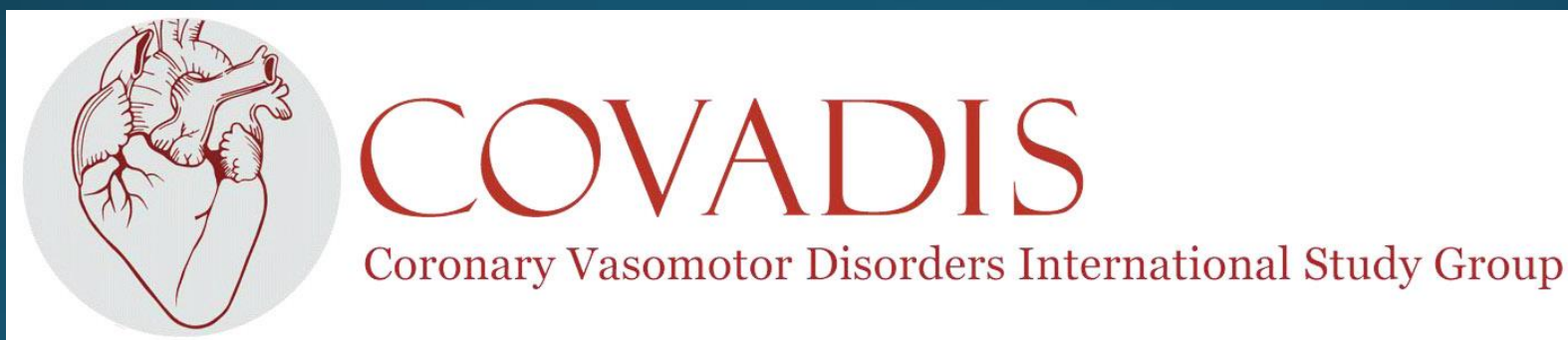
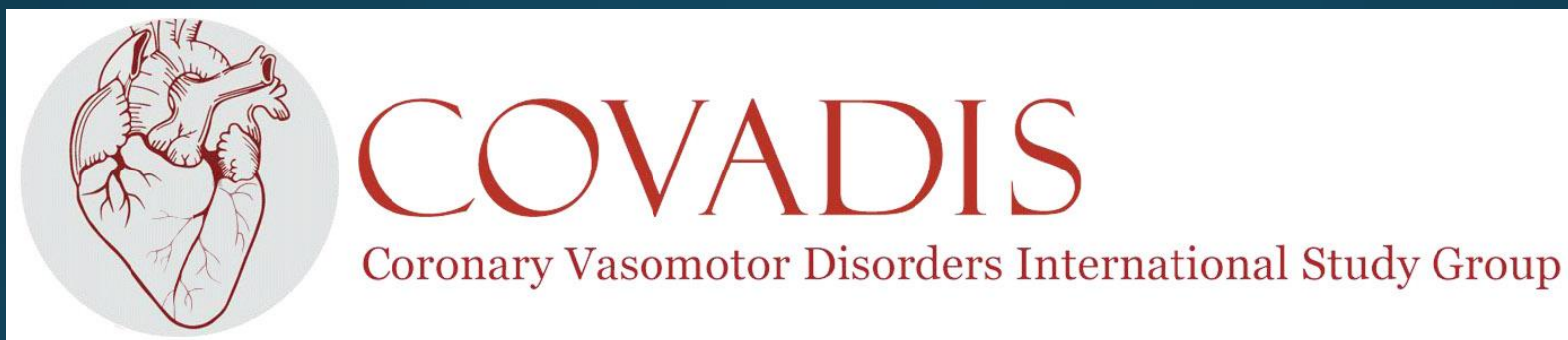
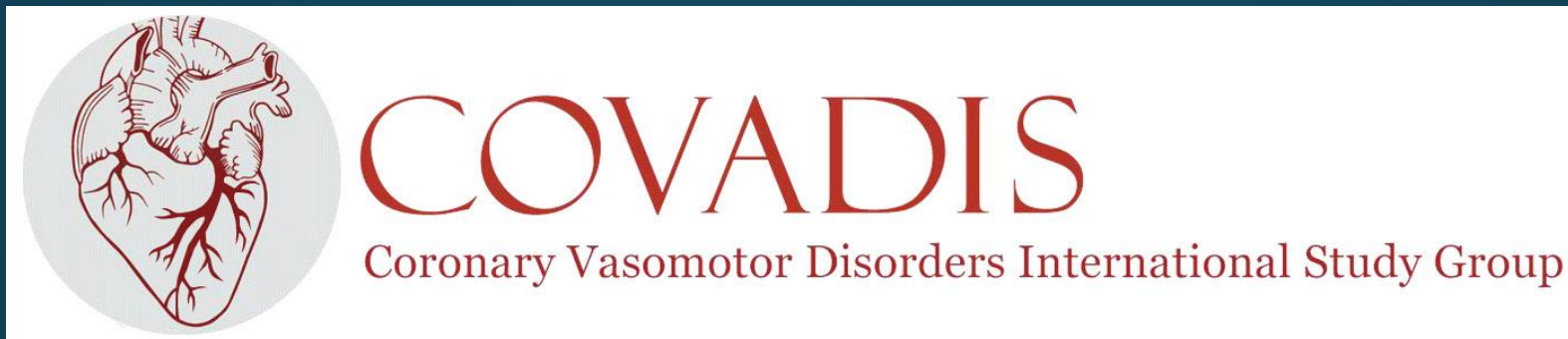


# The COVADIS Website



- **Changes in format?**
- **Members only section?**
- **Links?**
- **Opinion Forum?**

## COVADIS Logo – Animation Screenshots



# COVADIS Website Screenshots – Desktop View

Current website link: [www.covadis.online/wordpress](http://www.covadis.online/wordpress)

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Establish consensus on  
vasomotor nomenclature



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Raising awareness of  
coronary vasomotor disorders



The **Coronary Vasomotion Disorders International Study Group (COVADIS)** was established by an international group of cardiologists in order to develop global standards in the diagnosis of cardiac conditions. The conditions involve the spasm of the large vessels, or the coronary microvessels within the heart. These cardiac conditions are called **coronary vasomotor disorders** and they are dissimilar in nature.

Much research is needed to investigate and understand the causes, and the management of these disorders. A key step to advance this is to internationally unify the classification of these cardiac conditions. Important steps have already been made by COVADIS who have established the first standardised guidelines for the diagnosis of coronary artery spasm, which is an often underdiagnosed and potentially life threatening heart condition.

#### Mission Statement

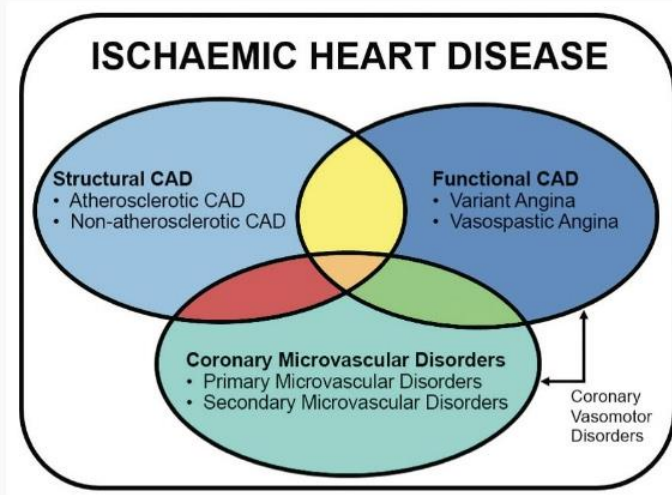
- Establish consensus on vasomotor nomenclature
- Raise awareness of coronary vasomotor disorders
- Promote international collaborative research

#### Attributes

- Collegiality and goodwill
- International representation
- Knowledge exchange
- Focused Summits
- Building a future for vasomotor research

#### Future Directions

- Establish nomenclature for coronary microvascular disorders
- Expand the COVADIS Microvascular Registry
- Promote international collaborative research
  - International Registries
  - International Clinical Trial Network



#### Landmark Events

|      |   |             |
|------|---|-------------|
| 2012 | Inugural Steering Committee               | Los Angeles |
| 2013 | COVADIS I                                 | Amsterdam   |
| 2014 | COVADIS II                                | Barcelona   |
| 2015 | COVADIS III                               | London      |
| 2016 | COVADIS IV                                | Rome        |
| 2016 | COVADIS Microvascular Registry            | Sendai      |
| 2017 | Steering Committee Strategic Planning Day | Barcelona   |

Link opens registry once clicked,  
as shown on next slide

#### COVADIS Members Registry

[Access Database Link](#)

## International Registry Studies

- Japanese Coronary Spasm Association(JCS...)
- Coronary Vasomotor Disorder Study Group Summit(COVADIS)

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## COVADIS Summit I, September 4<sup>th</sup> - 5<sup>th</sup> 2013, Amsterdam



**Schedule: Wednesday September 4th, 2013, 15:00 - 21:30**

[Print](#)

The ability to Print tables will be added

### 1. Introduction to Coronary Artery Vasospastic Disorders Summit (10min presentations)

| TIME        | TOPIC                   | SPEAKER                           |
|-------------|-------------------------|-----------------------------------|
| 1500 - 1510 | Welcome & Introductions | Noel Bairey Merz, Los Angeles, US |
| 1510 - 1520 | Summit Objectives       | John Beltrame, Adelaide, AU       |

### 2. Basic Concepts of Vasospastic Angina (15min presentation + 5min Q&A)

|             |                                  |                               |
|-------------|----------------------------------|-------------------------------|
| 1520 - 1540 | What is coronary vasospasm?      | Attilio Maseri, Milan, IT     |
| 1540 - 1600 | Prevalence of vasospastic angina | Hisao Ogawa, Kumamoto JP      |
| 1600 - 1620 | Prognosis of vasospastic angina  | Filippo Crea, Rome, IT        |
| 1620 - 1640 | Pathophysiological mechanisms    | Hiroaki Shimokawa, Sendai, JP |
| 1640 - 1700 | BREAK                            |                               |

### 3. Vasospastic angina - a global perspective of assessment & treatment (10min present + 5min Q&A)

|             |                        |                                |
|-------------|------------------------|--------------------------------|
| 1700 - 1715 | US perspective         | Richard Conti, Gainesville, US |
| 1715 - 1730 | English perspective    | Juan Carlos Kaski, London, GB  |
| 1730 - 1745 | Australian perspective | John Beltrame, Adelaide, AU    |

#### Summits

- [> 2013 - COVADIS I](#)
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- [> 2015 - COVADIS III](#)
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- [> COVADIS Microvascular Angina Registry](#)

#### Additional Documents

- [> COVADIS Membership Policy](#)
- [> COVADIS Microvascular Angina Registry - Policy & Procedures](#)
- [> COVADIS Microvascular Angina Registry - Research Proposal](#)

“Additional Documents” can either be placed here in the sidebar, or in the main navigation



## COVADIS Summit II, September 3<sup>th</sup> – 4<sup>th</sup> 2013, Barcelona



**Schedule: Wednesday Sep 3, 2014 13:30 – 20:30**

### 1. Introduction to Coronary Vasomotion Disorders International Study Group (COVADIS) Summit

| TIME        | TOPIC                   | SPEAKER                           |
|-------------|-------------------------|-----------------------------------|
| 1330 – 1340 | Welcome & Introductions | Noel Bairey Merz, Los Angeles, US |
| 1340 - 1350 | Summit Objectives       | John Beltrame, Adelaide, AU       |

### 2. Definition and Nomenclature for Coronary Microvascular Dysfunction and Disorders (10min presentation + 5min Q&A)

|             |   |                                   |
|-------------|---|-----------------------------------|
| 1350 - 1405 | Coronary Microvascular Dysfunction  | Filippo Crea, Rome, IT            |
| 1405 - 1420 | Syndrome X – dead or alive in 2014?   | Attilio Maseri, Florence, IT      |
| 1420 - 1435 | Microvascular angina – a new or old term?   | Gaetano Lanza, IT                 |
| 1435 - 1450 | Microvascular spasm – one test fits all?  | Udo Sechtem, DE                   |
| 1450 - 1505 | Angina, normal angiography and coronary endothelial dysfunction in women – a WISE syndrome? | Noel Bairey Merz, Los Angeles, US |
| 1505 - 1520 | Coronary slow flow or Syndrome Y?   | John Beltrame, Adelaide, AU       |
| 1520 - 1545 | Nomenclature of Microvascular Disorders - Panel   | Noel Bairey Merz, Los Angeles, US |
| 1545 - 1600 | BREAK   |                                   |

### 3. How I Assess & Manage Patients with Angina and Normal Angiography? (10min present + 5min Q&A)

|             |                     |                               |
|-------------|---------------------|-------------------------------|
| 1600 - 1615 | US perspective      | Puja Mehta, Los Angeles, US   |
| 1615 - 1630 | English perspective | Juan Carlos Kaski, London, UK |

#### Summits

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COVADIS Summit III, September 2<sup>rd</sup> - 3<sup>rd</sup> 2015, London



Wednesday Sep 2, 2015 13:30 - 20:30

**1. Introduction to Coronary Vasomotion Disorders International Study Group (COVADIS) Third Summit**

| TIME        | TOPIC                   | SPEAKER                           |
|-------------|-------------------------|-----------------------------------|
| 1330 - 1335 | Welcome & Introductions | Noel Bairey Merz, Los Angeles, US |
| 1335 - 1340 | Summit Objectives       | John Beltrame, Adelaide, AU       |

**2. Coronary Microvascular Dysfunction (CMD) Nomenclature**

|             |  |                               |
|-------------|--|-------------------------------|
| 1340 - 1355 | CMD: Clinical and Pathogenetic Classifications | Paolo G Camici, Milan, IT     |
| 1355 - 1410 | Primary Microvascular Disorders                | Gaetano Lanza, Rome, IT       |
| 1410 - 1440 | Panel Discussion: CMD Nomenclature             | Juan Carlos Kaski, London, UK |

**3. Coronary Microvascular Dysfunction (CMD) Assessment**

|             |  |                              |
|-------------|--|------------------------------|
| 1440 - 1455 | Non-invasive Methods of CMD Assessment     | Eva Prescott, Copenhagen, DK |
| 1455 - 1510 | Invasive Methods of CMD Assessment         | Filippo Crea, Rome, IT       |
| 1510 - 1540 | Panel Discussion: CMD Assessment Flowchart | Udo Sechtem, Stuttgart, DE   |
| 1540 - 1600 | BREAK                                      |                              |

**4. Coronary Microvascular Dysfunction Registry**

|             |  |                               |
|-------------|--|-------------------------------|
| 1600 - 1610 | Overview and Demonstration of the CMD Registry | Hiroaki Shimokawa, Sendai, JP |
|-------------|--|-------------------------------|

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COVADIS Summit IV, August 31<sup>st</sup> – September 1<sup>st</sup>2016, Rome**Wednesday August 31, 2016 13:30 – 20:30****1. Introduction to Coronary Vasomotion Disorders International Study Group (COVADIS) Third Summit**

| TIME        | TOPIC                   | SPEAKER                          |
|-------------|-------------------------|----------------------------------|
| 1330 – 1335 | Welcome & Introductions | Noel Bairey Merz, US (confirmed) |
| 1335 – 1340 | Summit Objectives       | John Beltrame, AU (confirmed)    |

**2. Japanese Coronary Spasm Association Registry**

|             |   |                                   |
|-------------|---|-----------------------------------|
| 1340 – 1410 | Overview, JCS Abstract, and Planned Analyses/Publications | Hiroaki Shimokawa, JP (confirmed) |
| 1410 – 1430 | Discussion  | Juan Carlos Kaski, UK (confirmed) |

**3. Coronary Microvascular Dysfunction Registry**

|             |   |   |
|-------------|---|---|
| 1430 – 1445 | Overview and Demonstration of the CMD Registry. Registry Data Quality Review (initial 150-300 subjects) | Peter Ong, DE and Hiroaki Shimokawa, JP (confirmed)       |
| 1445 – 1545 | (each Steering Committee member submits 50)   | Hiroaki Shimokawa, JP and Steering Committee (confirmed)  |
| 1545 – 1615 | BREAK   |   |
| 1615 – 1700 | CMD Registry Funding  | Hiroaki Shimokawa, JP and Ornella Rimoldi, IT (confirmed) |
| 1700 – 1730 | CMD Registry Policy and Procedures  | Noel Bairey Merz, US (confirmed)                          |
| 1730 – 1800 | Panel Discussion: CMD Policy & Procedures   | Udo Sechtem, DE (confirmed)                               |

**4. Coronary Microvascular Dysfunction in Heart Failure**

|             |                                   |                                  |
|-------------|-----------------------------------|----------------------------------|
| 1800 – 1830 | Tako-tsubo Cardiomyopathy and CMD | Abhiram Prasad, UK (confirmed)   |
| 1830 – 1900 | HFpEF and CMD                     | Noel Bairey Merz, US (confirmed) |
| 1900 – 2030 | Dinner                            |                                  |

**Thursday Sep 1, 2016 8:00 – 12:00****5. Coronary Microvascular Dysfunction Therapies (includes 5 min discussion)**

|             |   |                                   |
|-------------|---|-----------------------------------|
| 0800 – 0815 | Aerobic Exercise                                      | Eileen Handberg, US (confirmed)   |
| 0815 – 0830 | Endothelial Modulating Agents – Statins, L-Arg, ACE-I | Juan Carlos Kaski, UK (confirmed) |
| 0830 – 0845 | Nitrates, Calcium Channel Blockers, Ivabradine        | Gaetano Lanza, IT (confirmed)     |

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**Slide notes:  
Rome group photo to come**

## COVADIS Summit V - Strategic Meeting, August 30<sup>th</sup> 2017, Barcelona

Wednesday August 30, 2017 13:30 – 22:00

### Introduction to Coronary Vasomotion Disorders International Study Group (COVADIS) - Fifth Summit

| TIME          | TOPIC   | SPEAKER   |
|---------------|---|---|
| 13:30 – 14:00 | Lunch   |   |
| 14:00 – 14:15 | Welcome   | Noel Bairey Merz, US                            |
|               | Introduction & Objectives   | John Beltrame, AU                               |
| 1415-1445     | COVADIS Mission Discussion  | Juan Carols Kaski, UK and<br>Steering Committee |
| 1445-1515     | Registry Update   | Hiroaki Shimokawa, JP                           |
| 1515-1615     | 1. COVADIS Policy   | Noel Bairey Merz, US.                           |
|               | 2. COVADIS Microvascular Registry Policy and Procedures   | John Beltrame, AU, and<br>Hiroaki Shimokawa, JP |
|               | 3. COVADIS Research Proposal Request  |   |
|               | 2. COVADIS Microvascular Registry Policy and Procedures   | John Beltrame, AU, and<br>Hiroaki Shimokawa, JP |
|               | 3. COVADIS Research Proposal Request  |   |
| 1615-1645     | Publications  | Peter Ong, DE and<br>Steering Committee         |
| 1645-1715     | Joint Research Projects   | Filippo Crea, IT and<br>Steering Committee      |
| 1715-1745     | Society   | John Beltrame, AU and<br>Steering Committee     |
| 1745-1800     | Website – Goals- Structure – Web Editor   | John Beltrame, AU                               |
| 1800-1845     | Talk – “MVA- New Directions in Diagnosis”   | Colin Berry, UK                                 |
| 1845-1915     | Talk – “A computable phenotype for an international pragmatic trial in coronary microvascular disease”. | Carl Pepine, US                                 |
| 1915-2000     | Talk – “MVA- New Direction in Therapy”  | Paolo Camici, IT and Hiroaki Shimokawa, JP      |
| 2000-2145     | Working Dinner  |   |

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Coronary Vasomotor Disorders International Study Group

## Steering Committee

Noel Bairey Merz (USA), John Beltrame (Australia), Paolo Camici (Italy), Filippo Crea (Italy), Juan Carlos Kaski (UK), Peter Ong (Germany), Udo Sechtem (Germany), Hiro Shimokawa (Japan)

## Summit Attendees

- Australia: D DiFiore, B Freedman, A Sheikh
- Canada: M Friedrich
- Denmark: Eva Prescott
- Italy: R Bugiardini, G Lanza, M Marzilli, A Maseri,
- Japan: K Kaikita, Y Matsumoto, K Nishimiya, T Nihei, Y Odaka, S Sueda, H Uzuka
- Norway: S Ågevall
- Spain: Javier Escaned, J Figueras
- South Korea: SH Baek
- Sweden: P Tornvall
- United States: R Conti, T Gori, E Handberg, A Lerman, P Mehta, C Pepine, H Reynolds, B Sharif, J Tremmel, J Wei
- United Kingdom: S Plein

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Beltrame JF, Crea F, Kaski JC, Ogawa H, Ong P, Sechtem U, Shimokawa H, Bairey Merz CN, Coronary Vasomotion Disorders International Study G: **International standardization of diagnostic criteria for vasospastic angina**. *European Heart Journal* 2015.

Beltrame JF, Crea F, Kaski JC, Ogawa H, Ong P, Sechtem U, Shimokawa H, Bairey Merz CN: **The Who, What, Why, When, How and Where of Vasospastic Angina**. *Circulation Journal* 2016.

Crea F, Bairey Merz CN, Beltrame JF, Kaski JC, Ogawa H, Ong P, Sechtem U, Shimokawa H, Camici PG: **The parallel tales of microvascular angina and heart failure with preserved ejection fraction: a paradigm shift**. *European Heart Journal* 2016.

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## Australia



the hospital  
research foundation

finding cures improving care

## Germany



Deutsche  
Forschungsgemeinschaft

## Japan



Japan Heart Foundation

## United Kingdom



St George's  
University of London

## USA



CEDARS-SINAI

BARBRA STREISAND  
WOMEN'S HEART CENTER

### Coronary Artery Vasospastic Disorders Summit diagnostic criteria for vasospastic angina<sup>a</sup>

Vasospastic angina diagnostic criteria elements:

(1) Nitrate-responsive angina—during spontaneous episode, with at least one of the following:

- (a) Rest angina—especially between night and early morning
- (b) Marked diurnal variation in exercise tolerance—reduced in morning
- (c) Hyperventilation can precipitate an episode
- (d) Calcium channel blockers (but not P-blockers) suppress episodes

(2) Transient ischaemic ECG changes—during spontaneous episode, including any of the following in at least two contiguous leads:

- (a) ST segment elevation 20.1 mV
- (b) ST segment depression mV
- (c) New negative J waves

(3) Coronary artery spasm—defined as transient total or subtotal coronary artery occlusion ( $\geq 90\%$  constriction) with angina and ischaemic ECG changes either spontaneously or in response to a provocative stimulus (typically acetylcholine ergot, or hyperventilation)

<sup>a</sup>'Definitive vasospastic angina' is diagnosed if nitrate-responsive angina is evident during spontaneous episodes and either transient ischaemic ECG changes during the spontaneous episodes or coronary artery spasm criteria are fulfilled.

'Suspected vasospastic angina' is diagnosed if nitrate-responsive angina is evident during spontaneous episodes but transient ischaemic ECG changes are equivocal or unavailable and coronary artery spasm criteria are equivocal.

### Microvascular Angina (MVA)\* – Clinical Criteria

1. Symptoms of myocardial ischemia

- a) Effort and/or rest angina
- b) Angina equivalents (i.e. shortness of breath)

2. Absence of obstructive CAD ( $< 50\%$  diameter reduction or FFR by

- a) Coronary CTA
- b) Invasive coronary angiography

2. Objective evidence of myocardial ischemia

- a) Ischemic ECG changes during an episode of chest pain
- b) Stress-induced chest pain and/or ischemic ECG changes in the presence or absence of transient/reversible abnormal myocardial perfusion and/or wall motion abnormality

3. Evidence of impaired coronary microvascular function

- a) Impaired coronary flow reserve (cut—off values depending on methodology use between and 2-5)
- b) Abnormal coronary microvascular resistance indices (e.g. INR 25)
- c) Coronary microvascular spasm, defined as reproduction of symptoms, ischemic ECG shins but no epicardial spasm during acetylcholine testing. Coronary slow flow defined as TINI frame count  $> 25$

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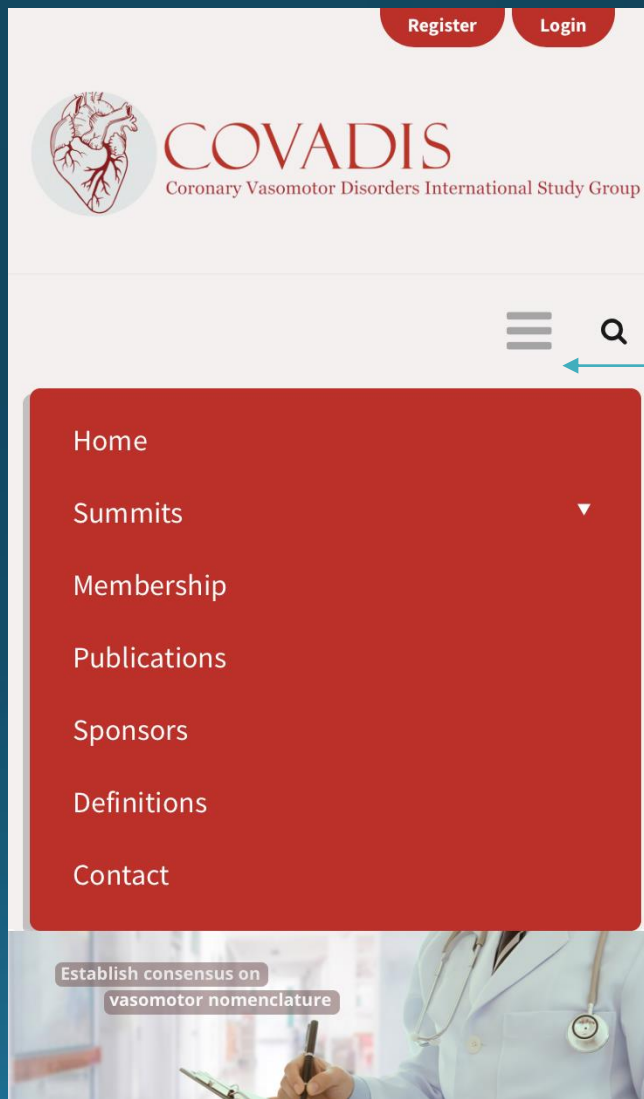
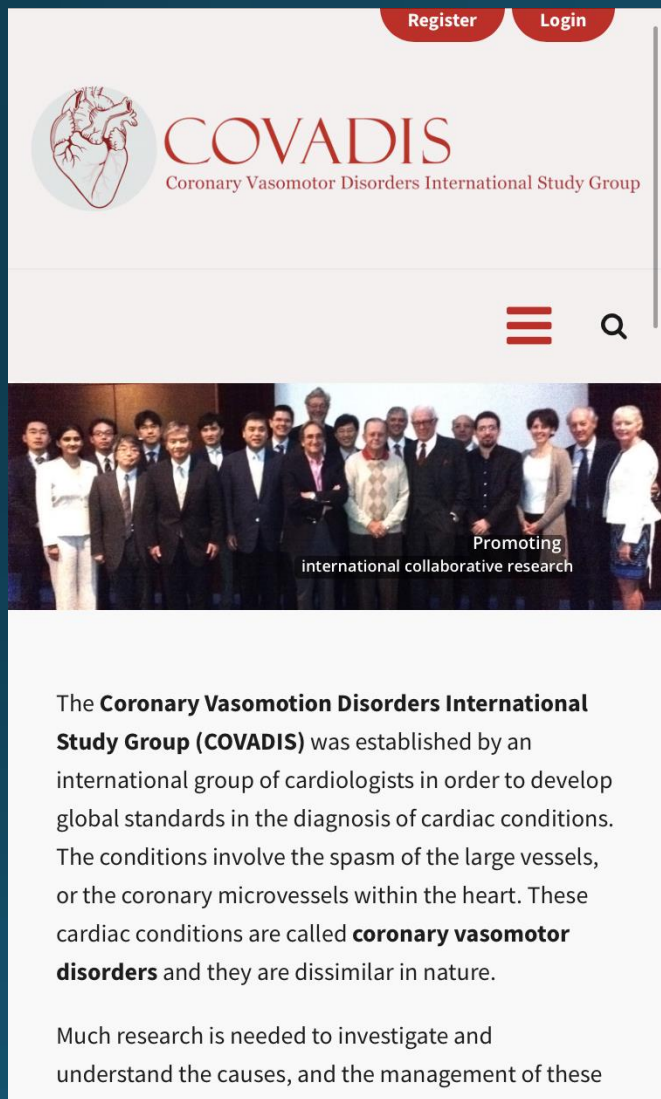
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# COVADIS Website Screenshots – Mobile View Examples



Drop down navigation menu

## Website Keywords for Search Engines

- Coronary vasomotor disorders
- Coronary vasomotor disorders study group
- Coronary vasomotor
- Coronary microvascular
- Coronary spasm
- Syndrome X
- Microvascular Angina
- Microvascular slow flow
- Slow flow
- Steering committee names

## Website – Future Work

- The option to download Summit slides from the tables
- The ability for members to log in and access members only information, such as, the Summit slides or private documents
  - A unique username and password would be set up for each member
- Set up website tracking – automatically keep track on how many visit the site, and from which location in the world