

bioeasyIA[®]

INTELIGÊNCIA ARTIFICIAL PARA DIAGNÓSTICO MÉDICO



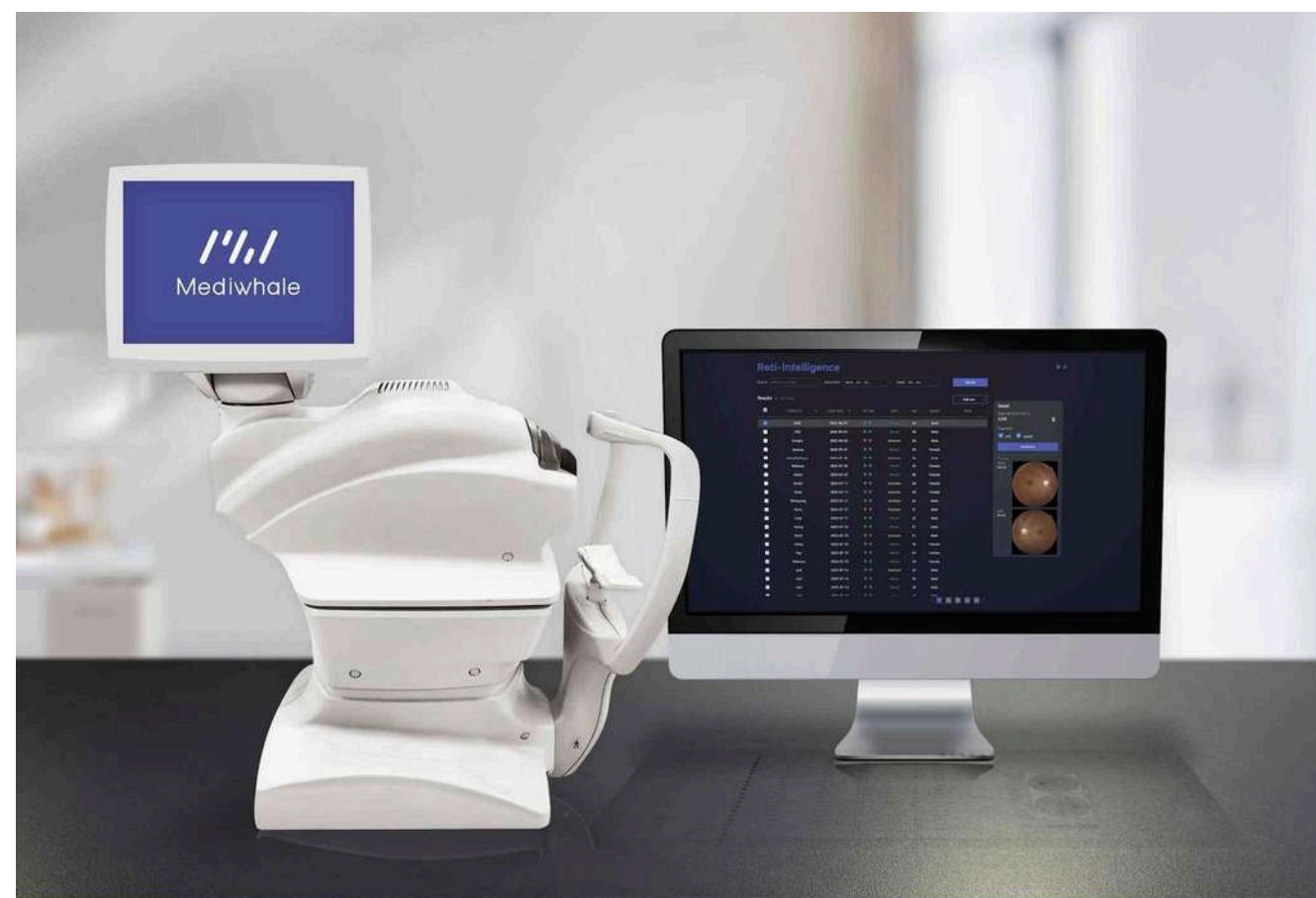
REPRESENTANTE EXCLUSIVO

Mediwhale

SOBRE

A primeira solução completa em diagnóstico por IA

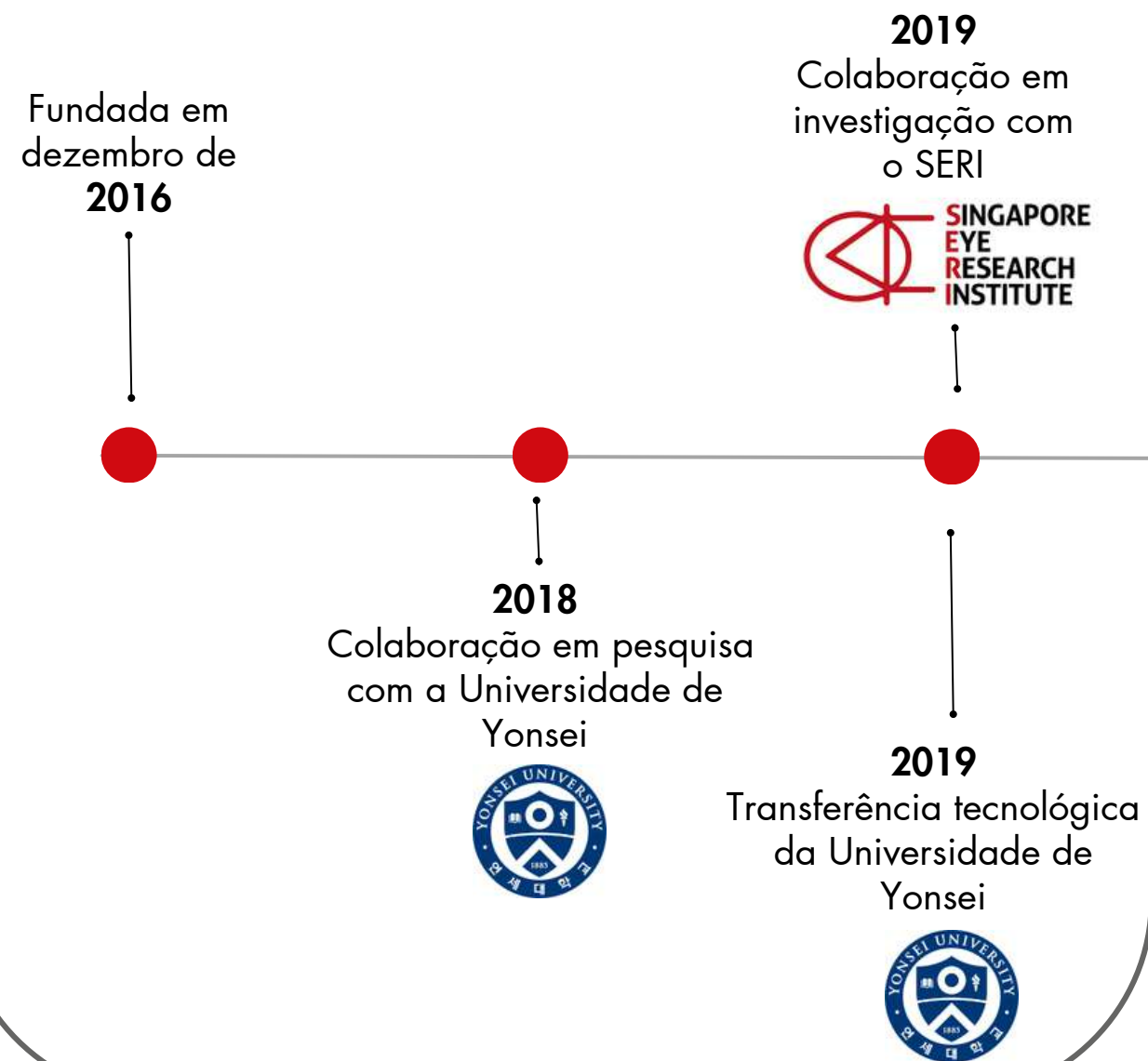
Estamos transformando em realidade soluções de diagnóstico com inteligência artificial simples, eficazes e acessíveis, para que mais pessoas possam se beneficiar de um cuidado preventivo em saúde.



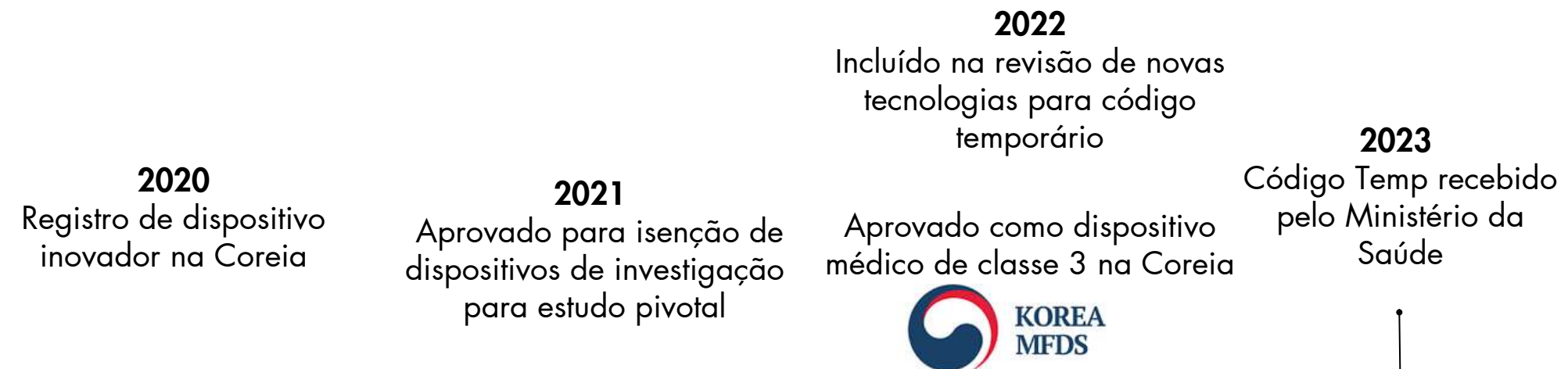
EM FASE DE REGISTRO NA ANVISA

HISTÓRIA

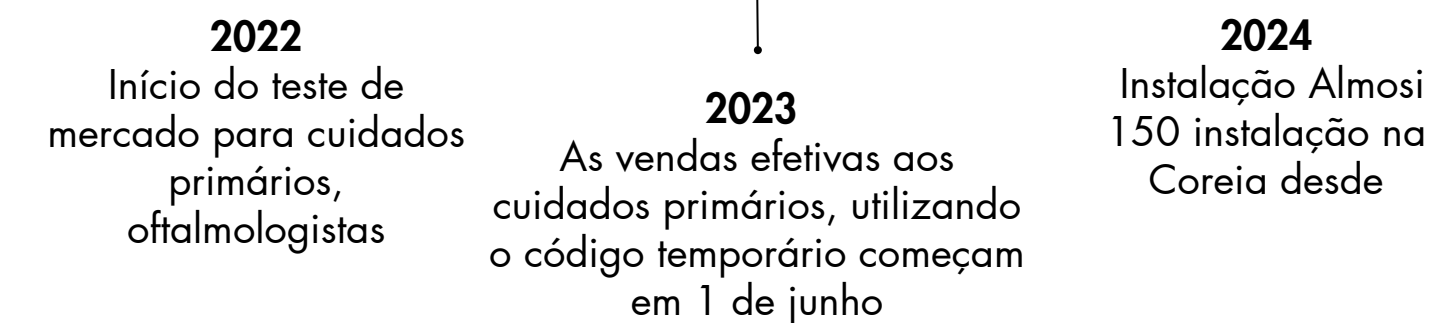
Desenvolvimento de produtos



Autorização Regulatória



Aquisição de clientes



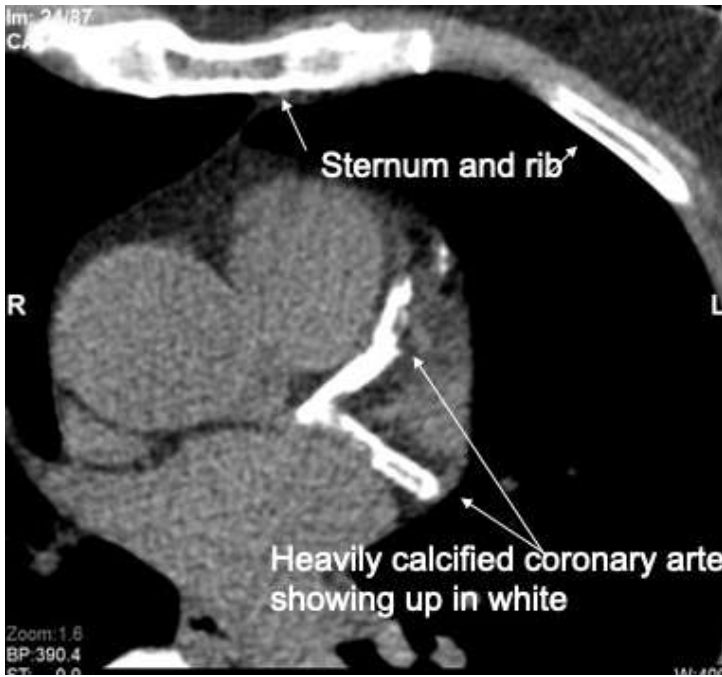
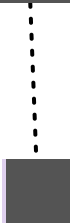
OPORTUNIDADES DE MERCADO

- **Risco Cardiovascular**
- **Ferramenta de avaliação de riscos**
- **Ferramenta de gestão de riscos**

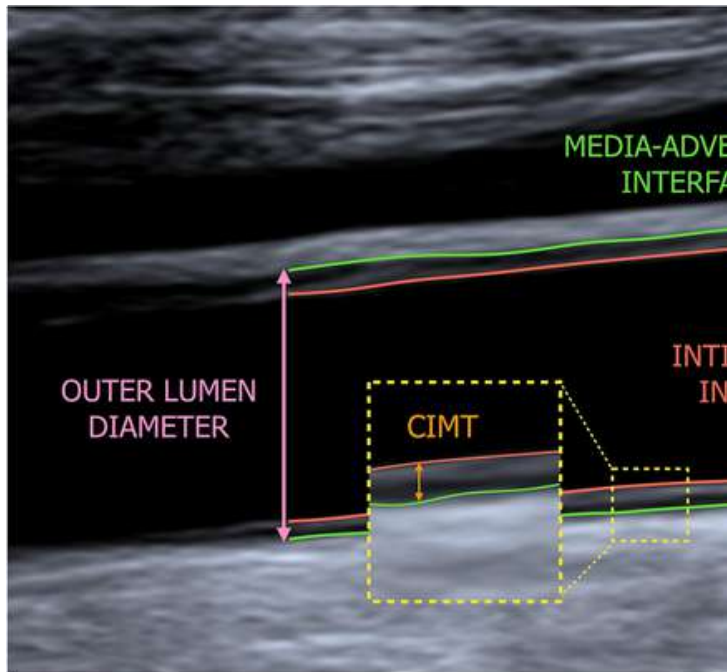
01 Ferramenta de avaliação de riscos



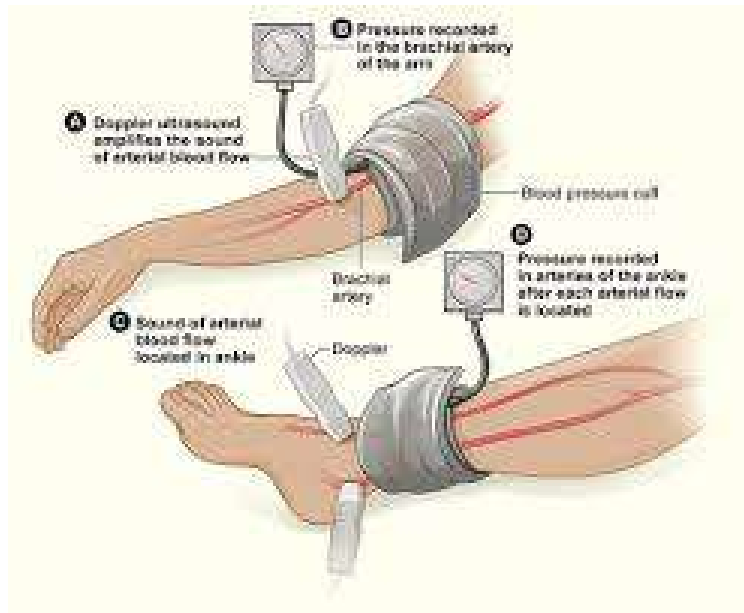
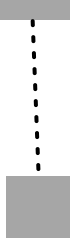
CACS



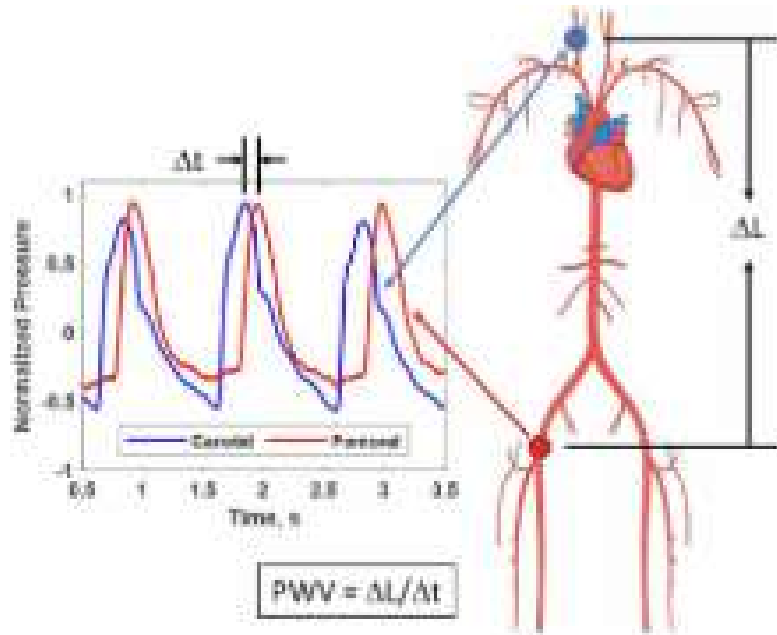
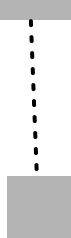
C-IMT



ABI



PWV



02 Alta precisão como o Padrão Ouro

Os resultados de acompanhamento de cinco anos mostram que os testes Dr. Noon CVD e a tomografia cardíaca (TC) preveem o risco cardiovascular com a **MESMA PRECISÃO**.

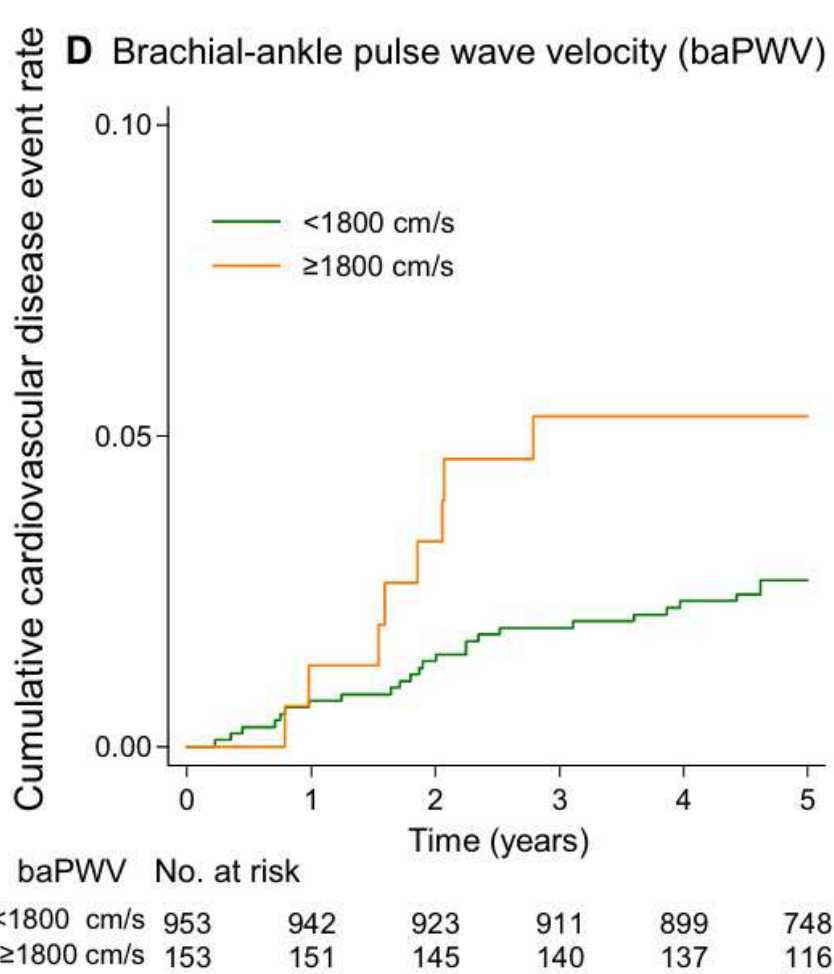
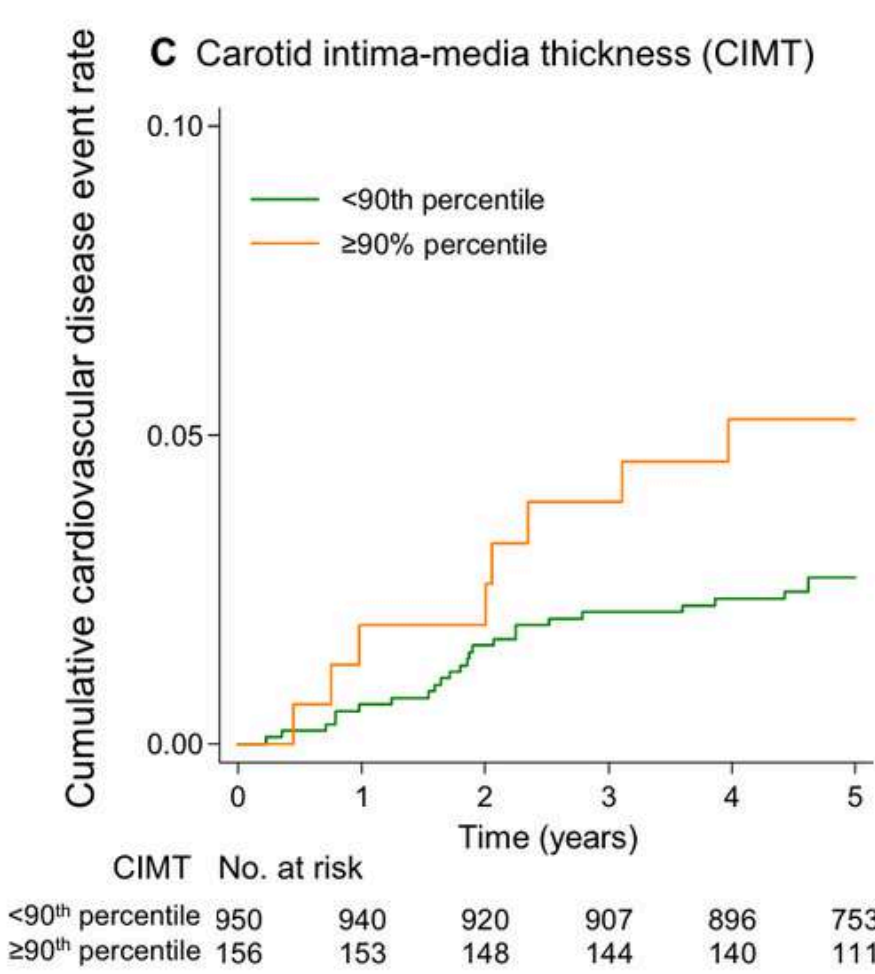
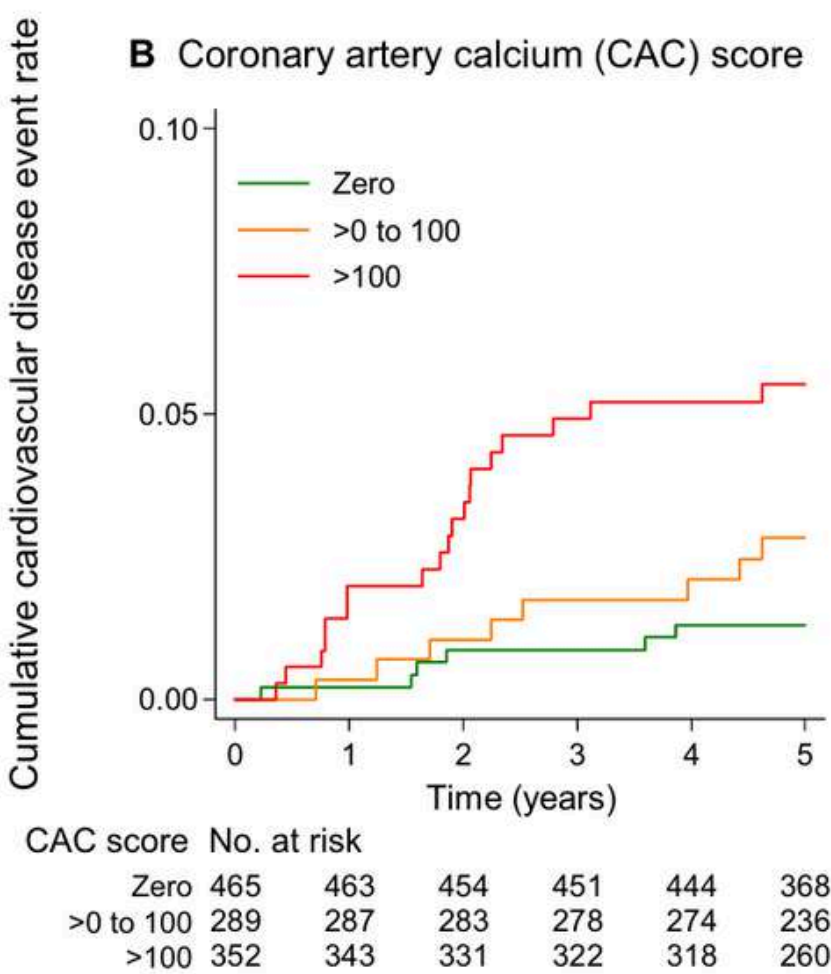
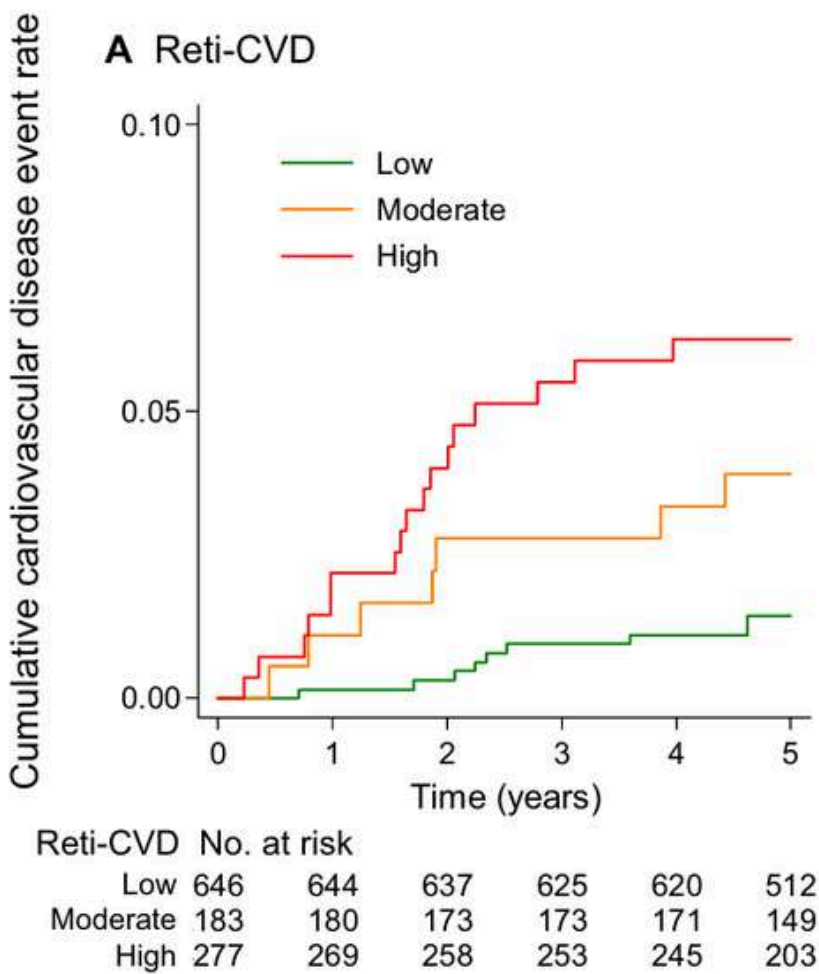
Estudo pivotal de um biomarcador retiniano baseado em DL (Reti-CVD) na predição de DCV, JAMIA 2023

Dr. Noon CVD

CT CACS

C-IMT

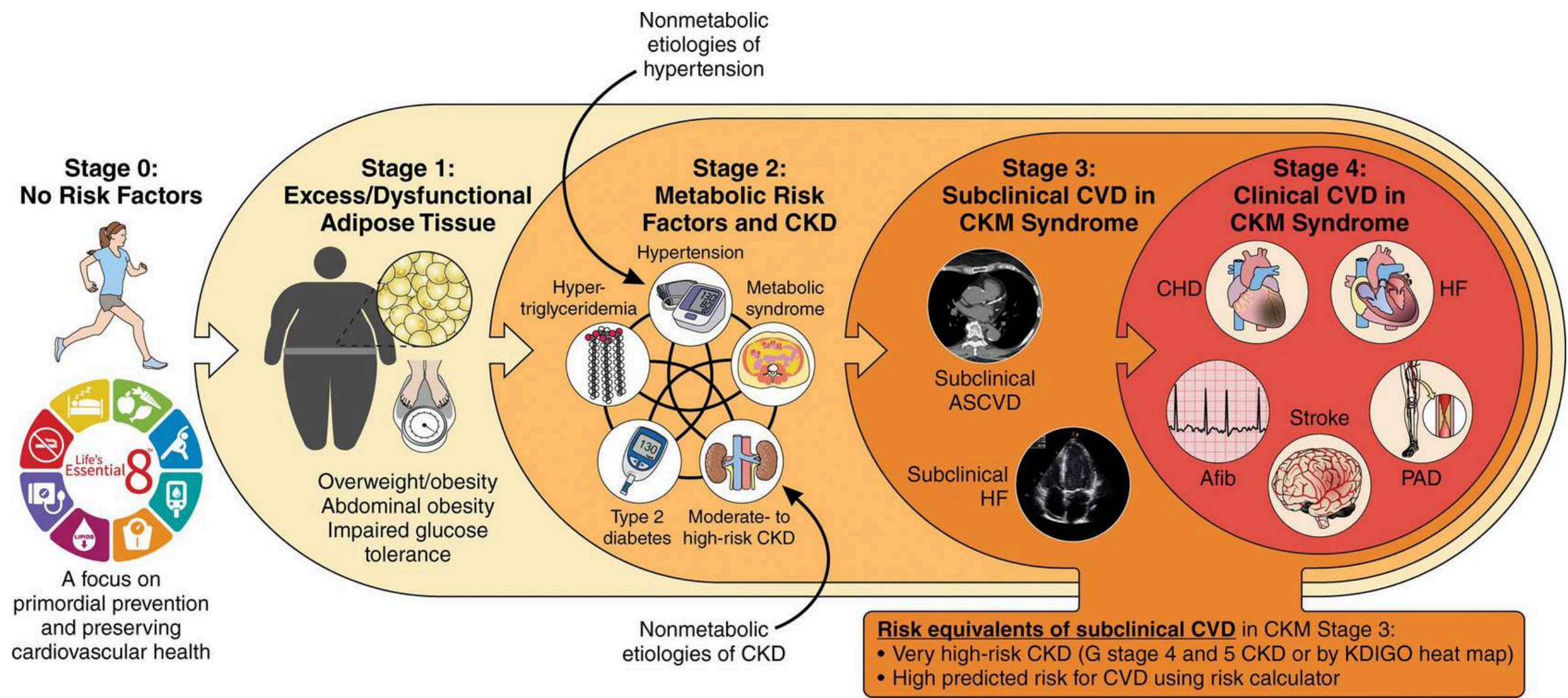
ABI



03 Prevenção: Padrão de conduta clínica

“CKMH (saúde cardiovascular-renal-metabólica), que divide as doenças cardiovasculares-metabólicas em 5 fases e salienta a necessidade do
DIAGNÓSTICO PRECOCE.”

By Presidential Advisory From the American Heart Association

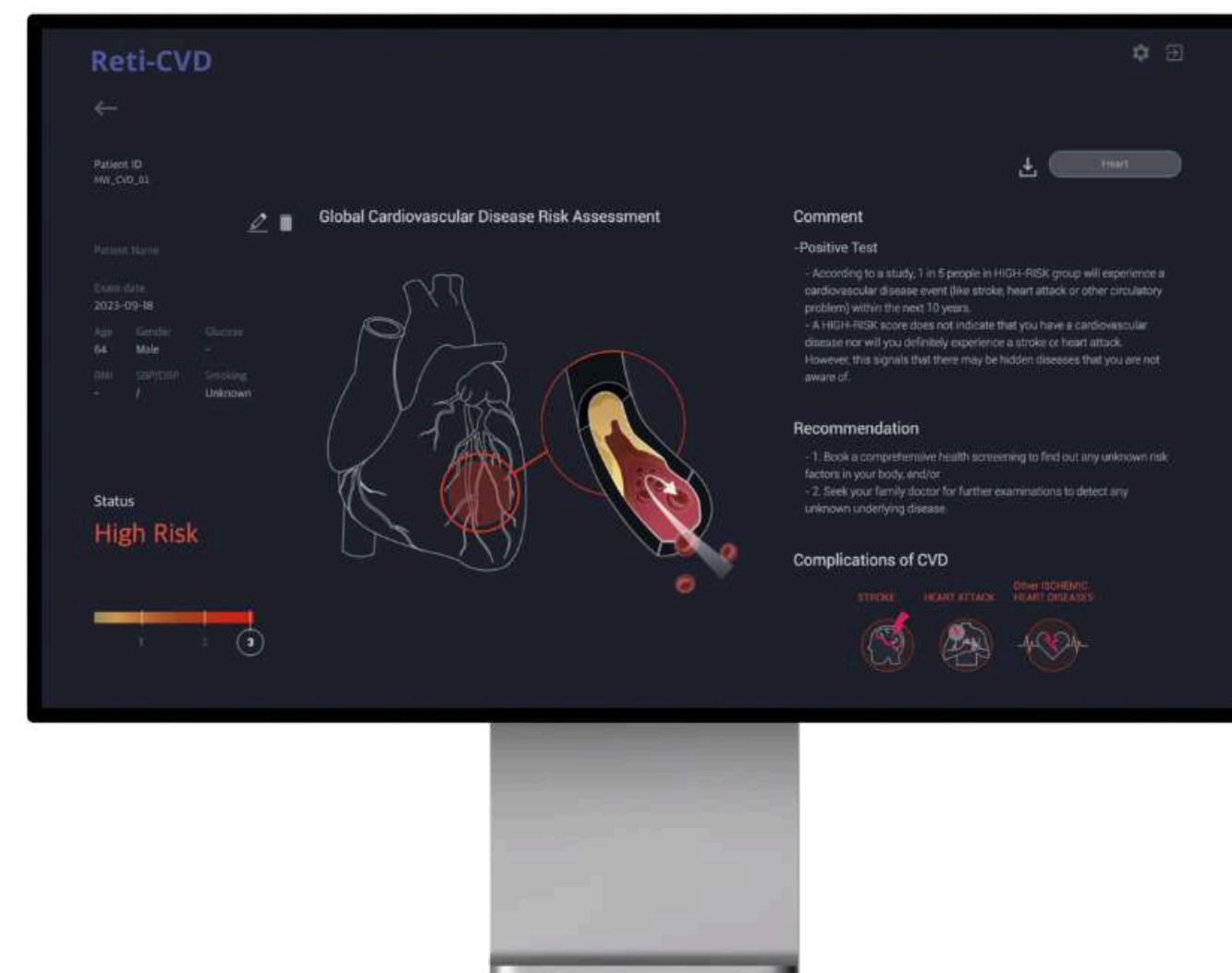


APRESENTAÇÃO DO PRODUTO

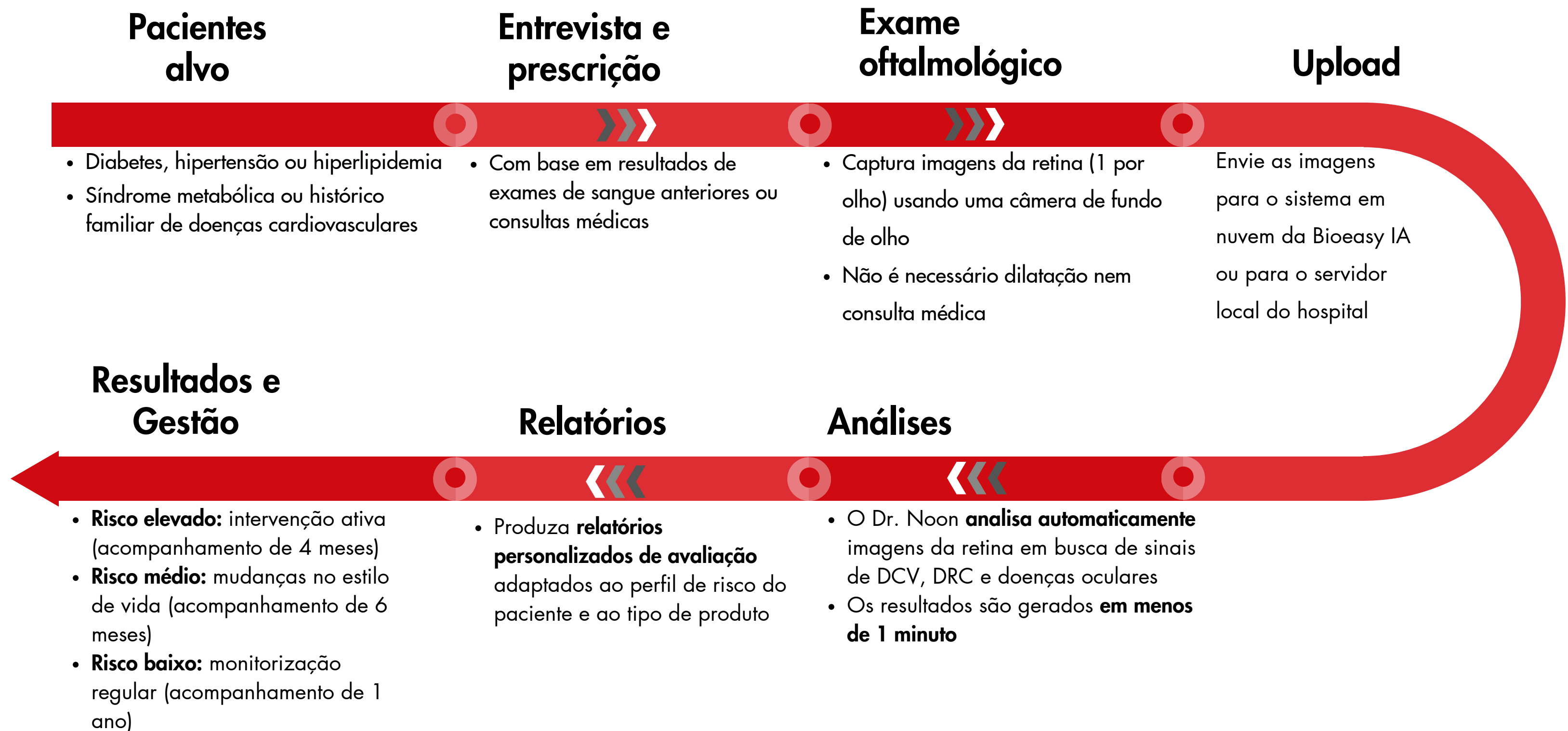
- **Visão geral**
- **Força**
- **Precisão**
- **Comparação**
- **Relatório do Dr. Noon**

01 Apresentação do produto

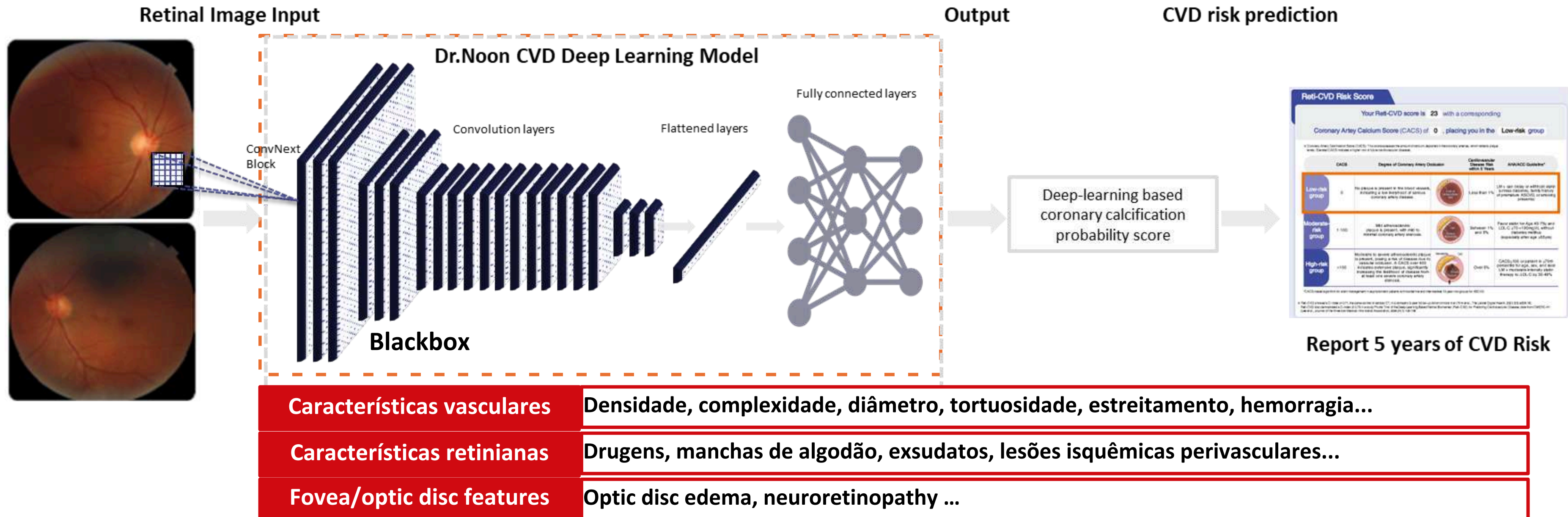
Avaliação de risco cardiovascular com tecnologia de IA, **Dr. Noon CVD**



02 Apresentação do produto



03 Desenvolvimento de IA para retina



Dr.Noon CVD

- Software baseado no mais recente modelo de IA: permite prever fatores de risco de DCV a partir de imagens da retina (apresentado pelo Google)
- Um modelo treinado usando a pontuação de cálcio da artéria coronária (CACs) = 0 ou >0 (risco baixo de ASCVD vs. risco intermediário/alto de ASCVD) e fotografias do fundo do olho.
- Calcula a probabilidade de CACS > 0 e apresenta-a como um indicador de pontuação

04 Pontos fortes do produto



Alta carga de exames de tomografia computadorizada



Exposição à radiação da tomografia computadorizada



Assassino silencioso, DCV

Dr. Noon CVD



Exame fácil e acessível



Exame seguro, sem nenhuma dose de radiação







Deteccção precoce e prevenção

05 Comparação





CT CACS



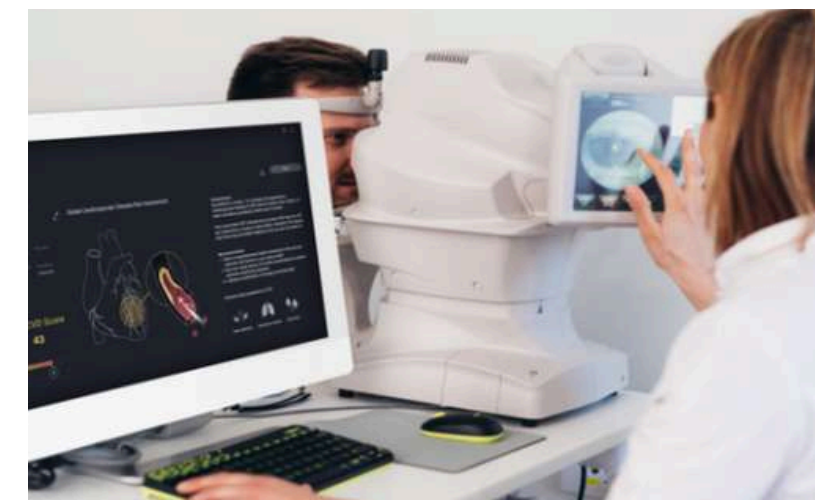
- Alta precisão 
- Exposição à radiação 
- Baixa acessibilidade 
- Alto custo 

C-IMT



- Baixa precisão 
- Seguro 
- Menos acessível 
- Custo moderado 

Dr. Noon



- Alta precisão 
- Seguro 
- Acessível 
- Econômico 

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INTELIGÊNCIA ARTIFICIAL PARA DIAGNÓSTICO MÉDICO

DrNoon

Mediwhale

Personalized Cardiovascular Disease Risk Assessment

Comparison of Risk Scores by Age Group

The graph displays Reti CVD Scores across various age groups. The 30% risk level (green line) shows the highest scores, while the 25% risk level (purple line) shows the lowest. A callout box indicates a score of 24 for a 25% risk level in the 50-54 age group.

Age	30%	15%	50%	25%
<30	25	20	15	12
30-34	27	22	17	13
35-39	30	24	19	15
40-44	32	25	21	17
45-49	37	30	25	20
50-54	40	34	29	24
55-59	44	36	32	27
60-64	48	41	37	30
65-69	50	45	41	34
>70	54	50	45	38

For women in their early 50s, approximately 50% are in an intermediate- to high-risk group. This is an age group where the risk of cardiovascular disease increases, so active prevention and management of cardiovascular disease are recommended. Being classified in the low-risk group does not imply the absence of risk. To sustain your low-risk status, it is crucial to engage in consistent health management and adhere to healthy lifestyle habits. Additionally, effective management of any chronic conditions is essential to delay progression into the intermediate-risk group.

Personalized Cardiovascular Risk Trajectory

Projected cardiovascular risk level based on your clinical profile and demographic data

The orange line beyond your next assessment illustrates a potential risk trajectory, demonstrating how cardiovascular risk may escalate with age if preventive measures are not implemented. This projection suggests a possible transition into the high-risk category by approximately age (X-Y).

The graph shows a projected risk trajectory. The score starts at 26 (Today's score) and is projected to rise to 38 by the next test date (2025-12). The trajectory crosses the threshold for the high-risk group (30) and is projected to reach the high-risk level by approximately age 55-59.

Time	Reti CVD Score	Risk Level
2 years ago	26	Low-risk group
1 year ago	26	Low-risk group
Today	26	Low-risk group
Next test date (2025-12)	38	Intermediate-risk group
Expected 10-year risk	38	High-risk group

© Reti CVD screenings are recommended once a year for the low-risk group, twice a year for the intermediate-risk group, and three times a year for the high-risk group.



VER MAIS >

Recommendations Based on Your Reti-CVD

You are in the **Low-risk** group, and the probability of developing cardiovascular disease within 5 years is **less than 1%**.

It is recommended that you, in the **Low-risk** group, check the following cardiovascular risk factors with medical

to maintain your low-risk status through consistent health management and healthy lifestyle habits.

Your next recommended screening date is in **12 months**, on **Dec 16, 2025**.

Cardiovascular Disease Risk Factors

	Borderline	High-risk	Severe-risk
 Hypertension	Systolic Blood Pressure (SBP) /Diastolic Blood (DBP) 130–139mmHg/80–89mmHg	SBP/DBP 140–159mmHg /80–99mmHg	SBP/DBP ≥ 160mmHg /≥ 100mmHg
 Hyperlipidemia	Low Density Lipoprotein Cholesterol (LDL Cholesterol) 130–159mg/dL	LDL Cholesterol 160–189mg/dL	LDL Cholesterol ≥ 190mg/dL
 Diabetes	HbA1c 5.7–6.4% Fasting Plasma Glucose (FPG) 100–125mg/dL Postprandial Plasma Glucose (PPG) 140–199mg/dL	HbA1c ≥ 6.5% FPG ≥ 126mg/dL PPG ≥ 200mg/dL	

 Elderly
  Family History of Cardiovascular Disease
  Obesity
  Smoking History

Lifestyle Recommendations for Cardiovascular Disease Prevention and Management

 **Healthy Diet**

- Increase consumption of vegetables, fruits, whole grains, legumes, nuts, and plant-based proteins.
- Choose lean meats, poultry, and fish as protein sources.
- Limit intake of saturated fats, trans fats, added sugars, and sodium.
- Avoid sugar-sweetened beverages and excess alcohol consumption.

 **Weight Management**

- Maintain a body mass index (BMI) of 25 kg/m² or less.
- If overweight or obese, implement a structured weight loss program combining dietary changes and increased physical activity.

 **Chronic Disease Management**

- If diagnosed, adhere to treatment plans for high blood pressure, high cholesterol, and diabetes mellitus.
- Regularly monitor blood pressure, lipid levels, and blood glucose as recommended by your healthcare provider.

 **Physical Activity**

- Aim for at least 30 minutes of moderate-intensity aerobic activity daily.
- Incorporate muscle-strengthening activities at least twice per week.

 **Sleep Quality**

- Prioritize 7–8 hours of quality sleep per night.
- Address sleep disorders such as obstructive sleep apnea with appropriate medical intervention.

 **Smoking Cessation**

- Quit smoking and the use of e-cigarettes. Seek professional support if needed.
- Avoid exposure to secondhand smoke.
- Be aware that smoking cessation can reduce cardiovascular risk by up to 50% over time.

 **Stress Management**

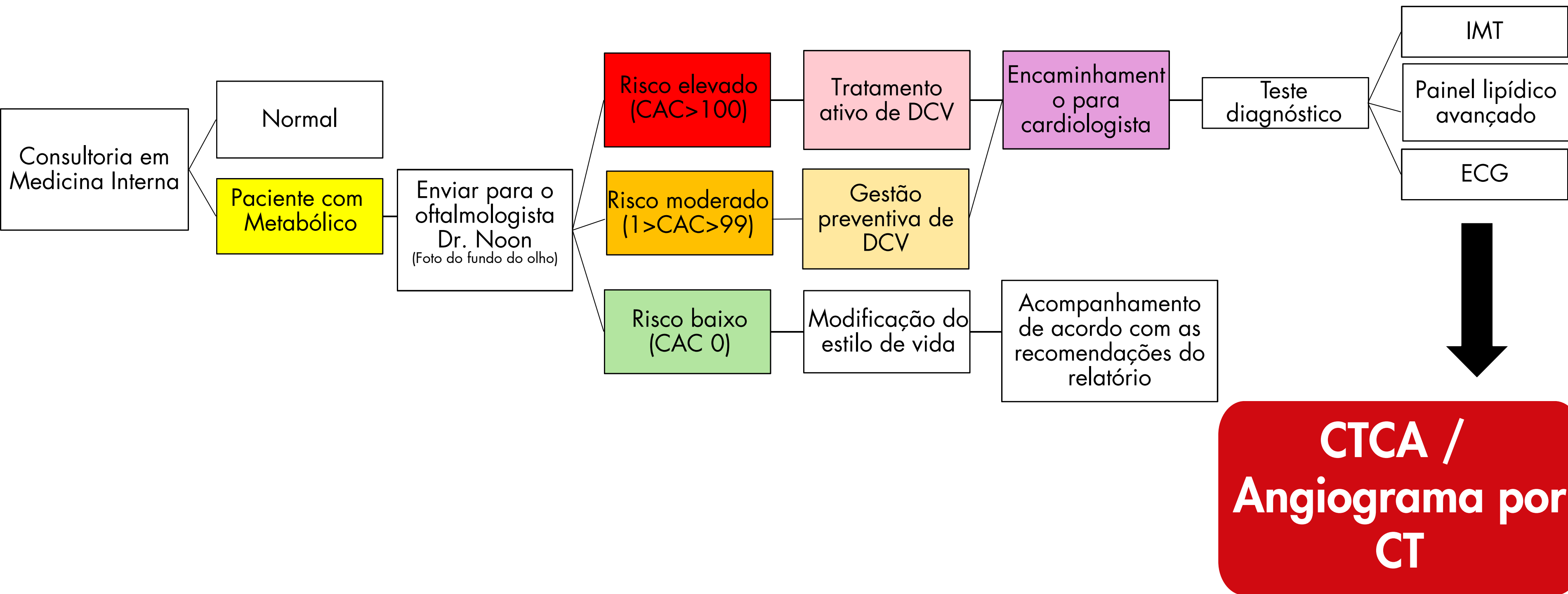
- Practice stress-reduction techniques such as mindfulness, meditation, or yoga.
- Consider professional mental health support if experiencing persistent stress, anxiety, or depression.

 **Regular Health Assessments**

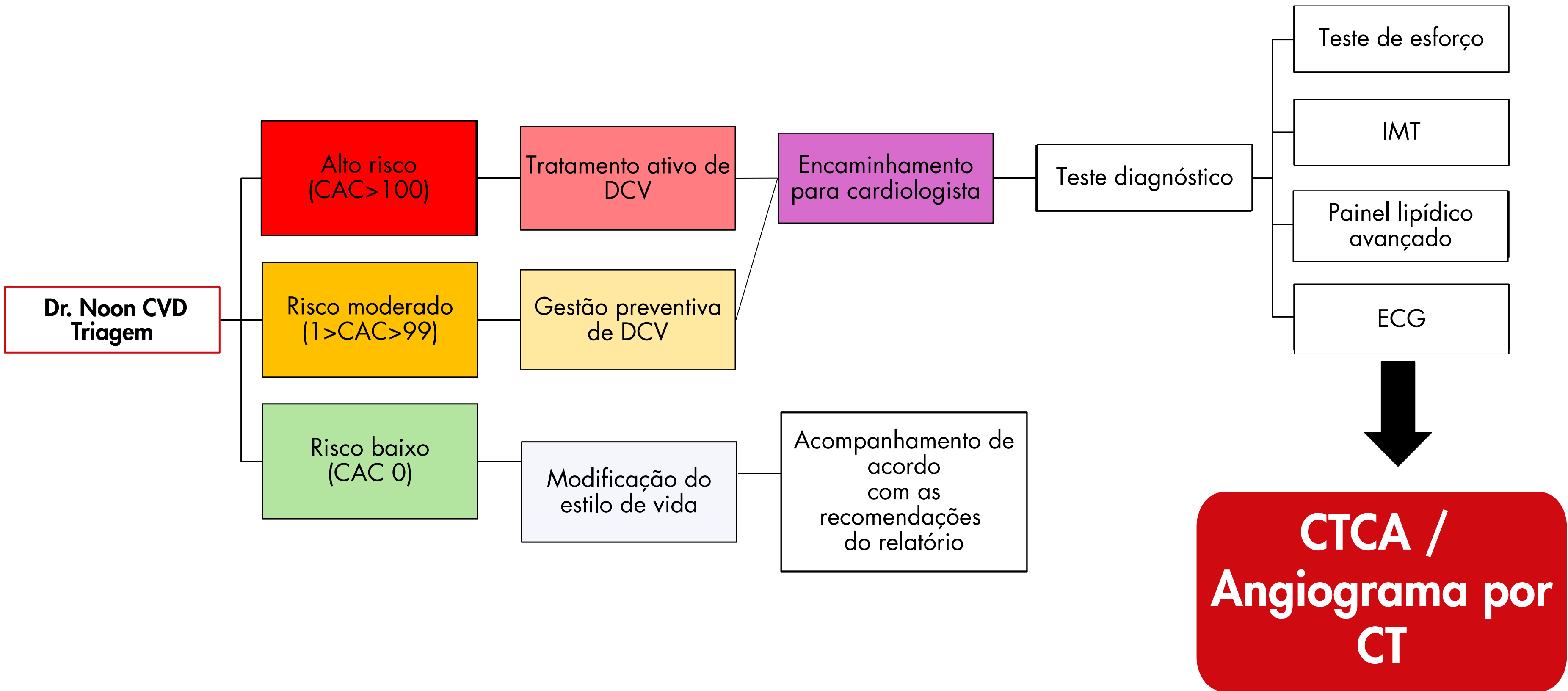
- Adhere to the recommended frequency of Reti-CVD Cardiovascular Risk Assessments based on your risk category.
- Engage in regular health check-ups with your primary care provider.
- Stay informed about your cardiovascular health status and risk factors.

Reference: 1) Chong et al., Coronary artery calcium scoring: an evidence-based guideline for primary care physicians. Journal of Internal Medicine. 2021; 10.1111/jim.15176. 2) Parikh et al., Coronary artery calcium scoring: its practicality and clinical utility in primary care. Cleveland Clinic Journal of Medicine. 2018; 85 (8):707-716. 3) Cholesterol Clinical Practice Guidelines. Circulation. 2018; 138:e146-e181.

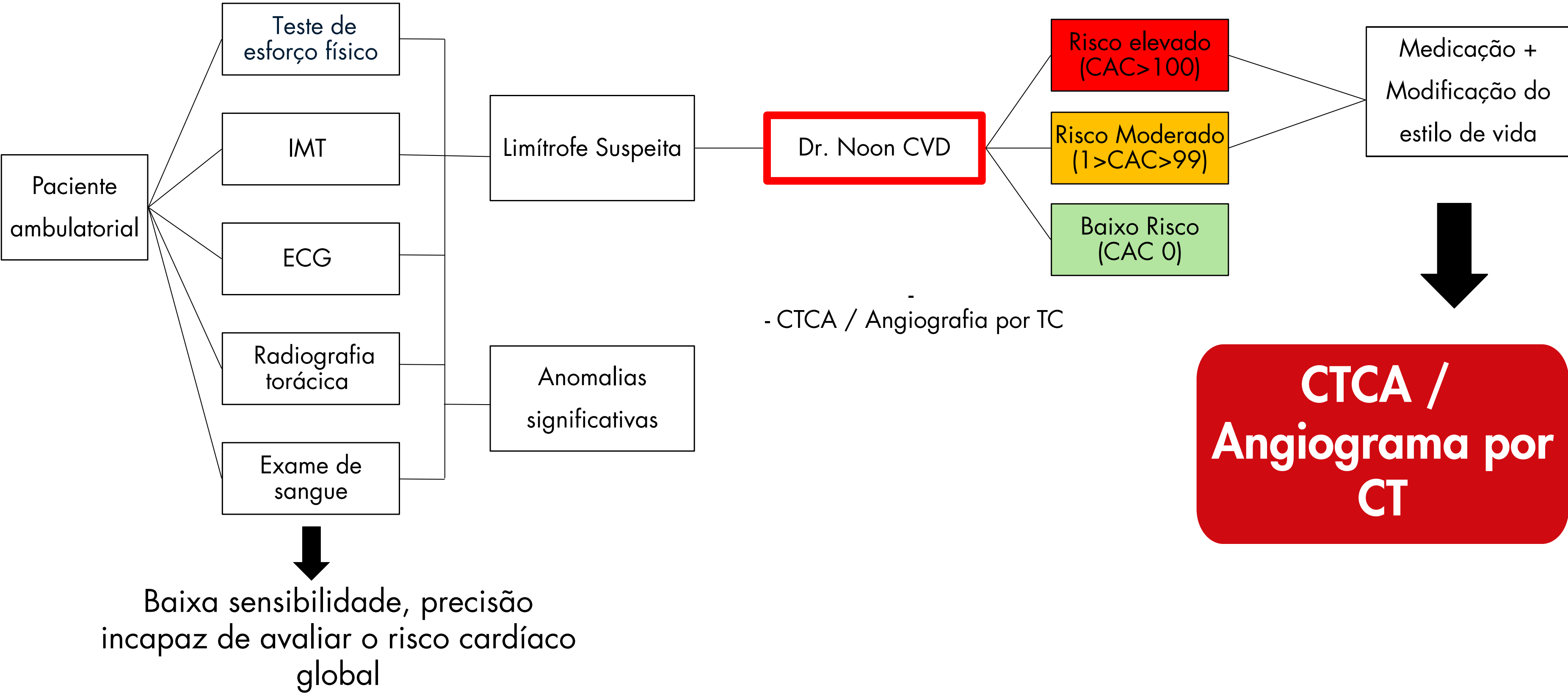
07 Percurso Clínico - Hospital Geral



07 Percurso Clínico - Centro de Diabetes



07 Percurso Clínico - Clínica de Cardiologia



08 Câmeras validadas



<NW400>



<OCT-1 MAESTRO 2>

NW6S
NW7SF Mark II
NW8F
NW100
NW200
NW300
NW400

50DX
OCT-1000
OCT-2000
OCT-1 MAESTRO 1
OCT-1 MAESTRO 2
OCT Triton



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Nonmyd 7
Nonmyd 8
Nonmyd 8s
VX-10a
VX-10 I
VX-20
Nonmyd WX-3D



<CR-2 AF>



<Xephilio OCT-R1>

CR-DGI
CR6-45NM
CR5-45NM
CR-1
CR-1 Mark II
CR-2 AF
CR-2 Plus AF



<VISUCAM NM/FA>

FF3-4
FF450
VISUCAM NM/FA



<AFC-230>



<AFC-330>

AFC 210
AFC 230
AFC 330
Scan Duo RS-330
Scan Duo 2
NM-1000

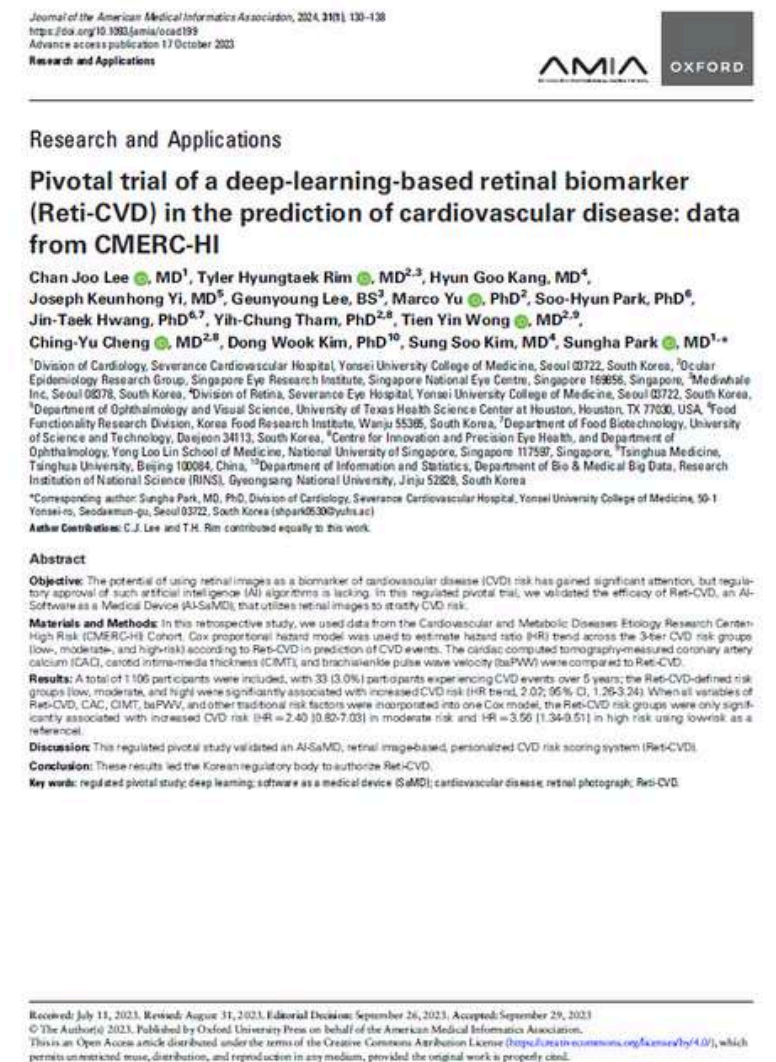
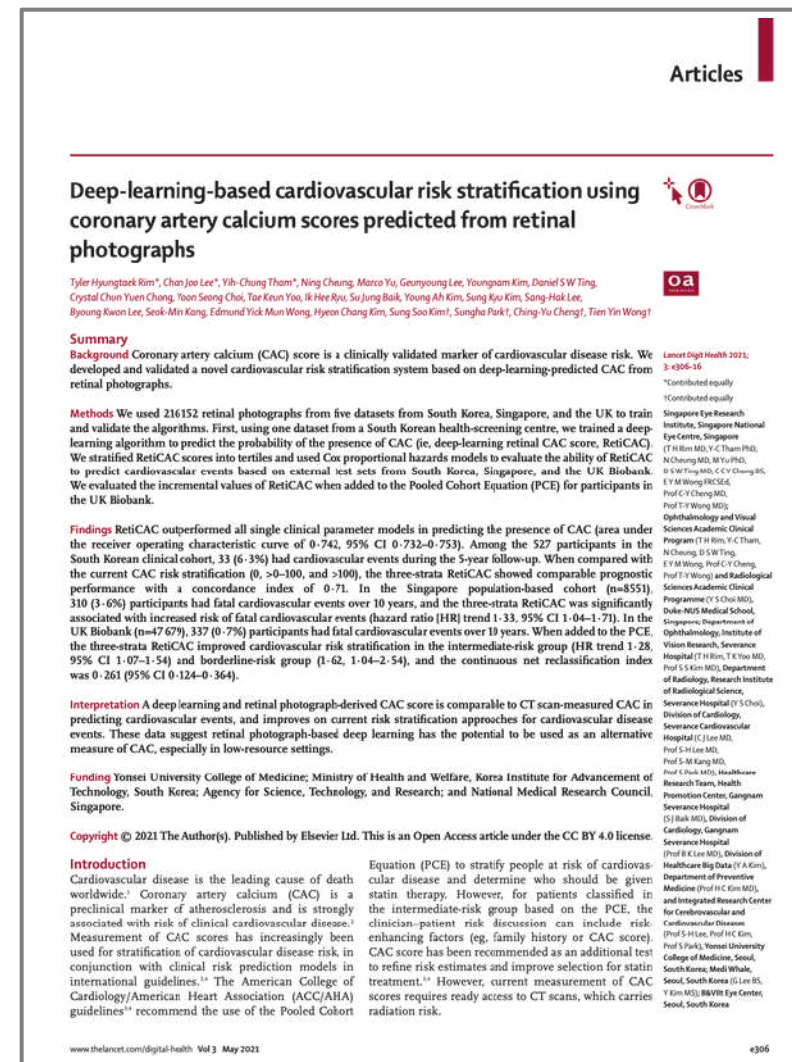
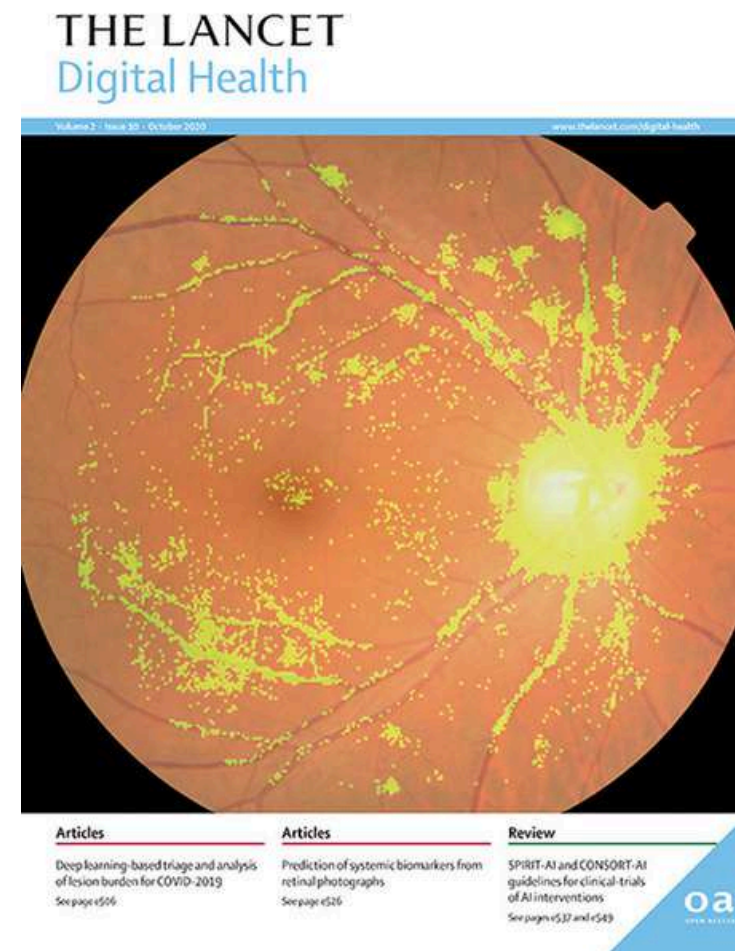


<Reticam 3100>

Kestrel 3100M
Reticam 3100

09 Publicações

Um total de 51 publicações, até maio de 2025



1. Lancet Digital Heart 2021: Reti-CVD (CAC Score Comparator).
2. Circulation Abstract 2022: Reti-CVD (U.S. Population ASCVD Risk Stratification).
3. European Heart Journal - Digital Health 2023: Reti-CVD (U.S. Pooled Cohort Equation Comparator).
4. JAMIA 2023: Reti-CVD (Non-Traditional Risk Assessment Comparator).
5. BMC Medicine 2023: Reti-CVD (Validation in UKBiobank).
6. Review article ESC 2022: The year in cardiovascular medicine 2021: digital health and innovation - PubMed
7. Review article ESC 2024: Artificial intelligence-enhanced patient evaluation: bridging art and science – PubMed

10 Status do registro



식약처



MHRA
Regulating Medicines and Medical Devices



Submetido à FDA em 2024

- Teste de compatibilidade com várias marcas de câmeras em 2023
- Outros documentos e testes a serem finalizados até 2025
- Obter aprovação De Novo da FDA até o final de 2026

Australian Government
Department of Health
and Aged Care



11 Conformidade e segurança



<ISO27001:2022

>



<ISO27701:2019

>



<GDPR:2016>

HIPPA (Lei de Portabilidade e Responsabilidade dos Seguros de Saúde)

A HIPAA é uma lei dos EUA que protege a privacidade e a segurança das informações de saúde dos pacientes e define normas para o tratamento de dados médicos.

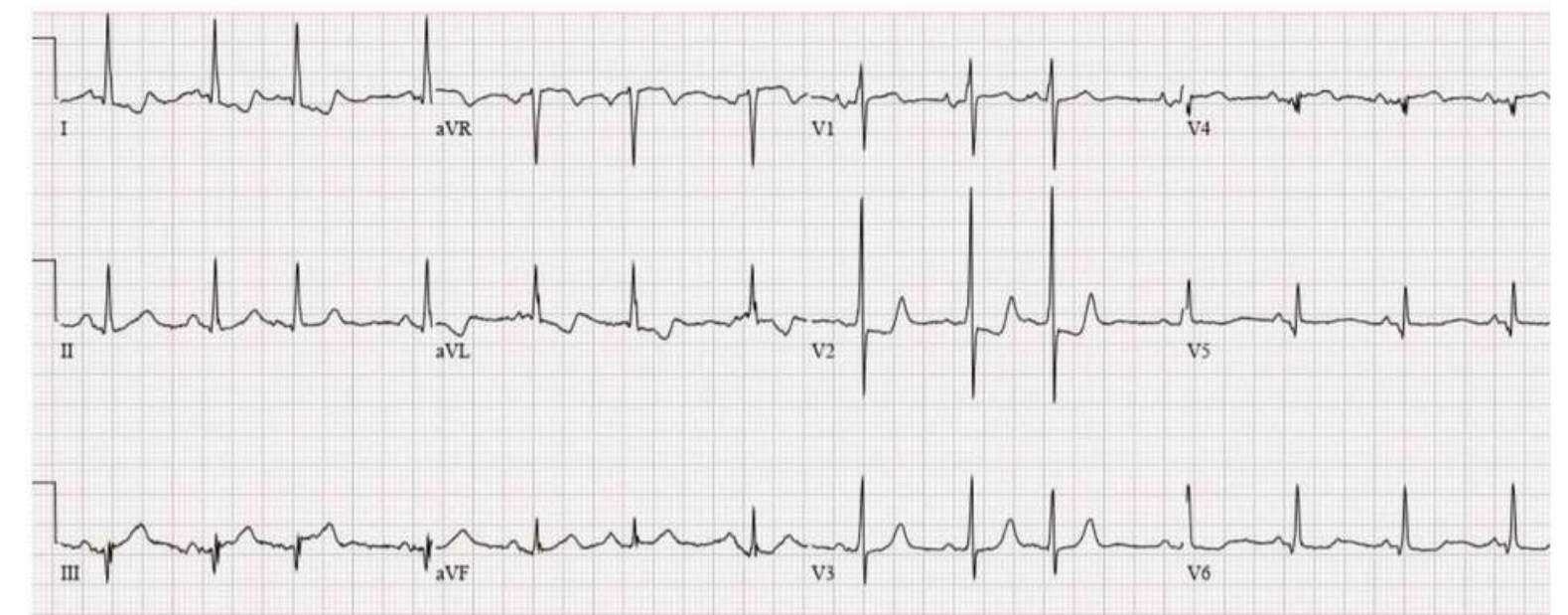
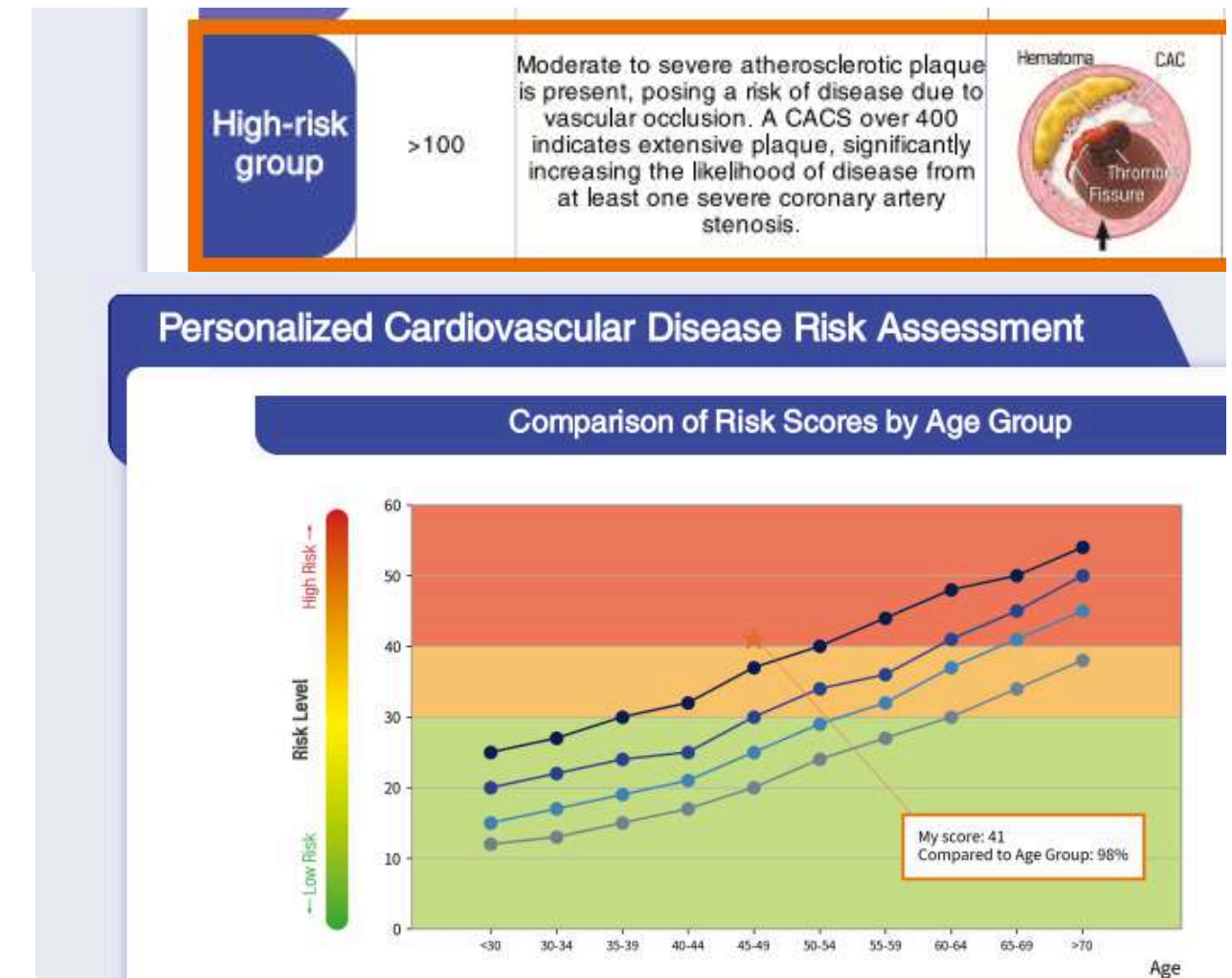


CASOS CLÍNICOS



01 Mulher, 48 anos

- **Informações da paciente**
- Altura: 155 cm / Peso: 61 kg / IMC: 25,39 kg/m²
- Diabética: açúcar no sangue controlado
- LDL: abaixo de 100 mg/dL
- **Relatório CVD do Dr. Noon**
- Pontuação: 41
- Suspeita de infarto do miocárdio no ECG
- Consultar cardiologista



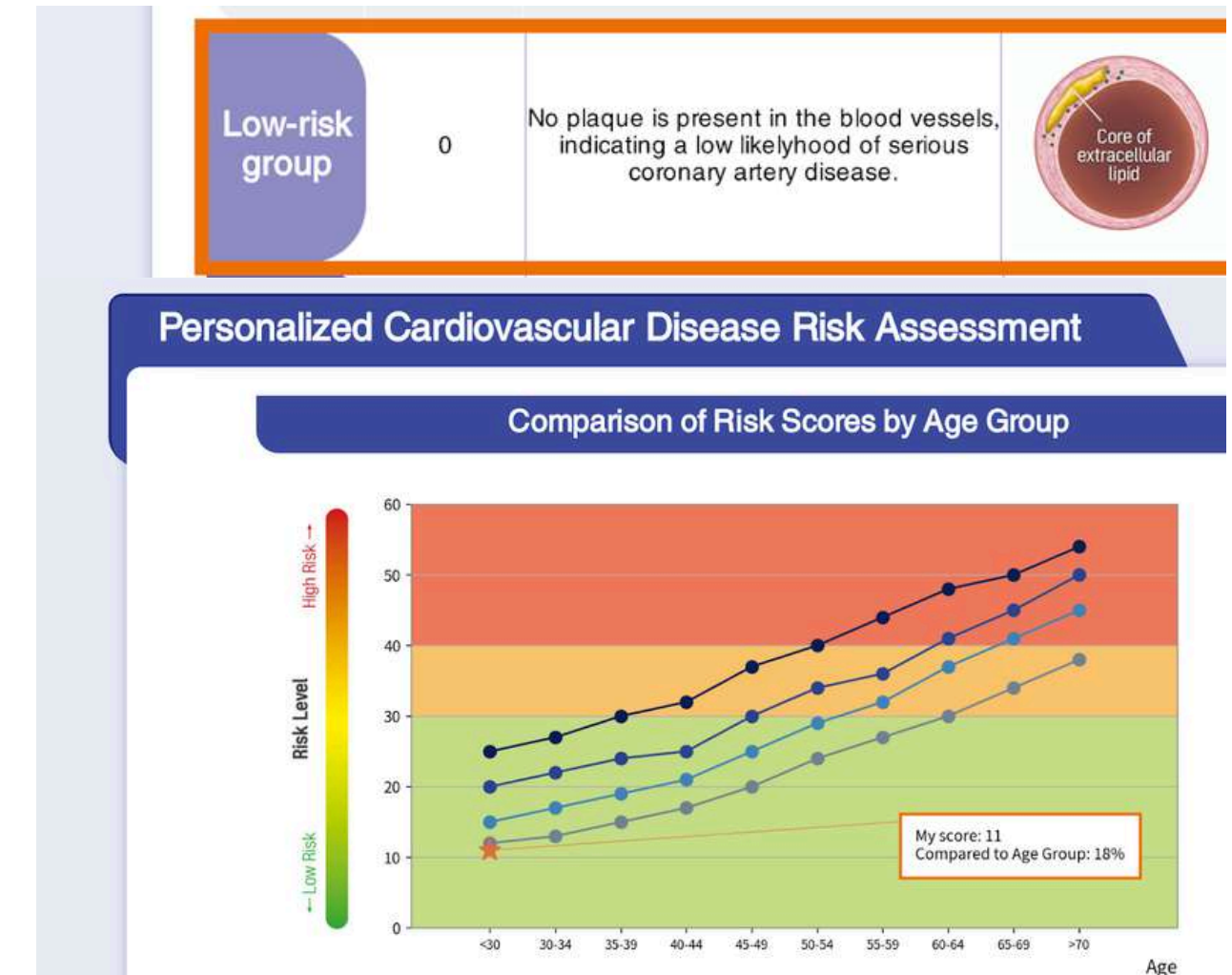
02 Mulher, 22 anos

- **Informações da paciente**

- Altura: 150 cm / Peso: 61 kg / IMC: 27,11 kg/m²
- LDL: 210 mg/dL
- HbA1c > 7,5%

- **Relatório CVD do Dr. Noon**

- Pontuação 11 Grupo de baixo risco
- Decidir controlar o peso e o nível de glicose
- Esperar também uma diminuição do nível de LDL-C
- Manter a terapia para o colesterol



03 Homem, 56 anos

- **Informações da paciente**

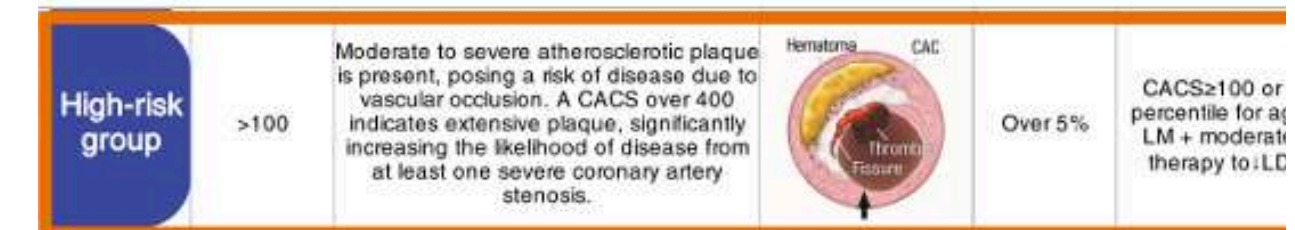
- Altura: 173 cm / Peso: 91 kg / IMC: 30,4 kg/m²
- LDL: 78 mg/dL
- HbA1c > 4,8%

- **Relatório CVD do Dr. Noon**

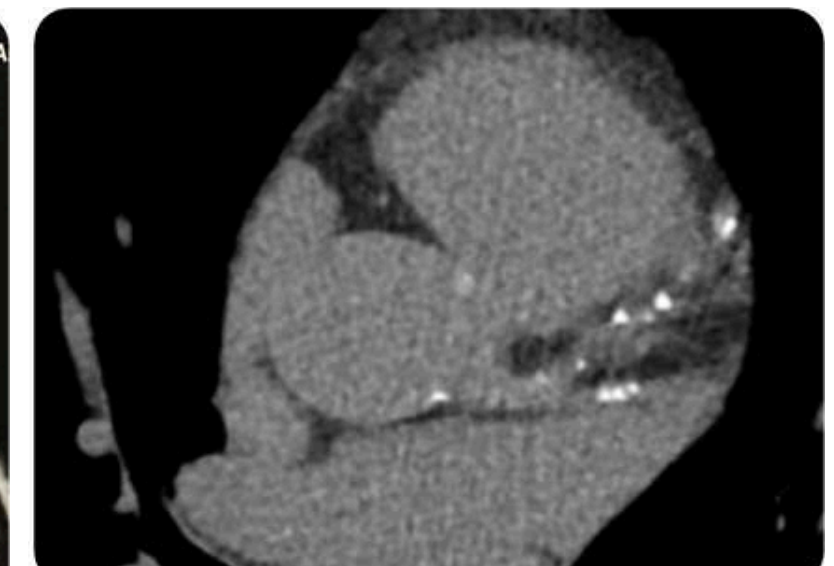
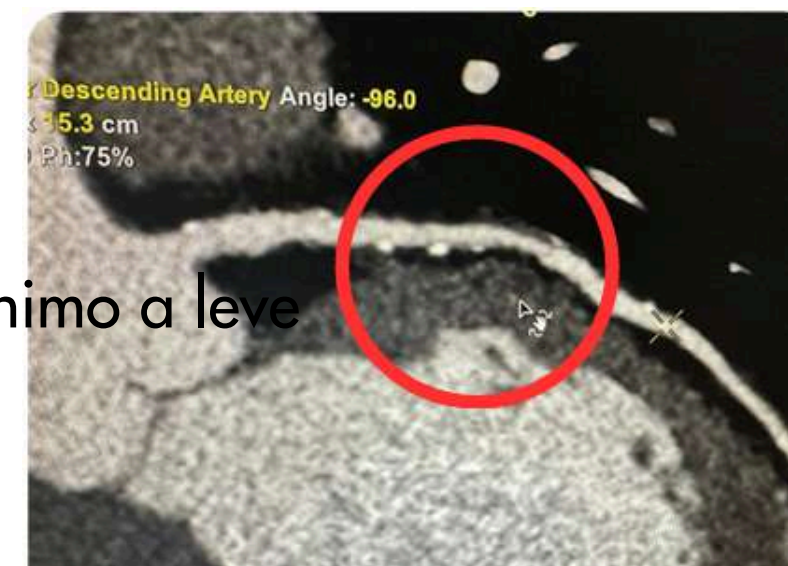
- Pontuação de cálcio > 100
- 77% em comparação com a idade e o sexo

- **Conclusão**

- Pontuação de cálcio coronário 447
- Suspeita de estenose moderada (50-60%)
- As outras artérias coronárias apresentam estreitamento luminal mínimo a leve (menos de 50%)



Personalized Cardiovascular Disease Risk Assessment



04 Homem, 60 anos

- **Informações da paciente**

- Altura: 171 cm / Peso: 65 kg / IMC: 22,22 kg/m²
- LDL: 73 mg/dL
- HbA1c > 6,3%

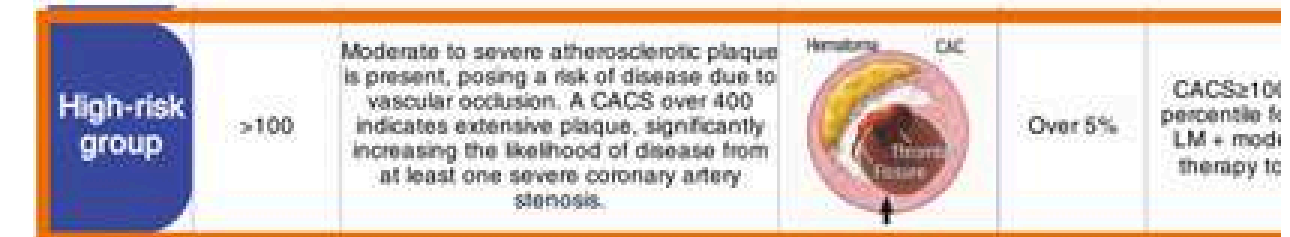
- **Relatório CVD do Dr. Noon**

- Pontuação de cálcio > 100
- 73% em comparação com a idade e o sexo

- **Conclusão**

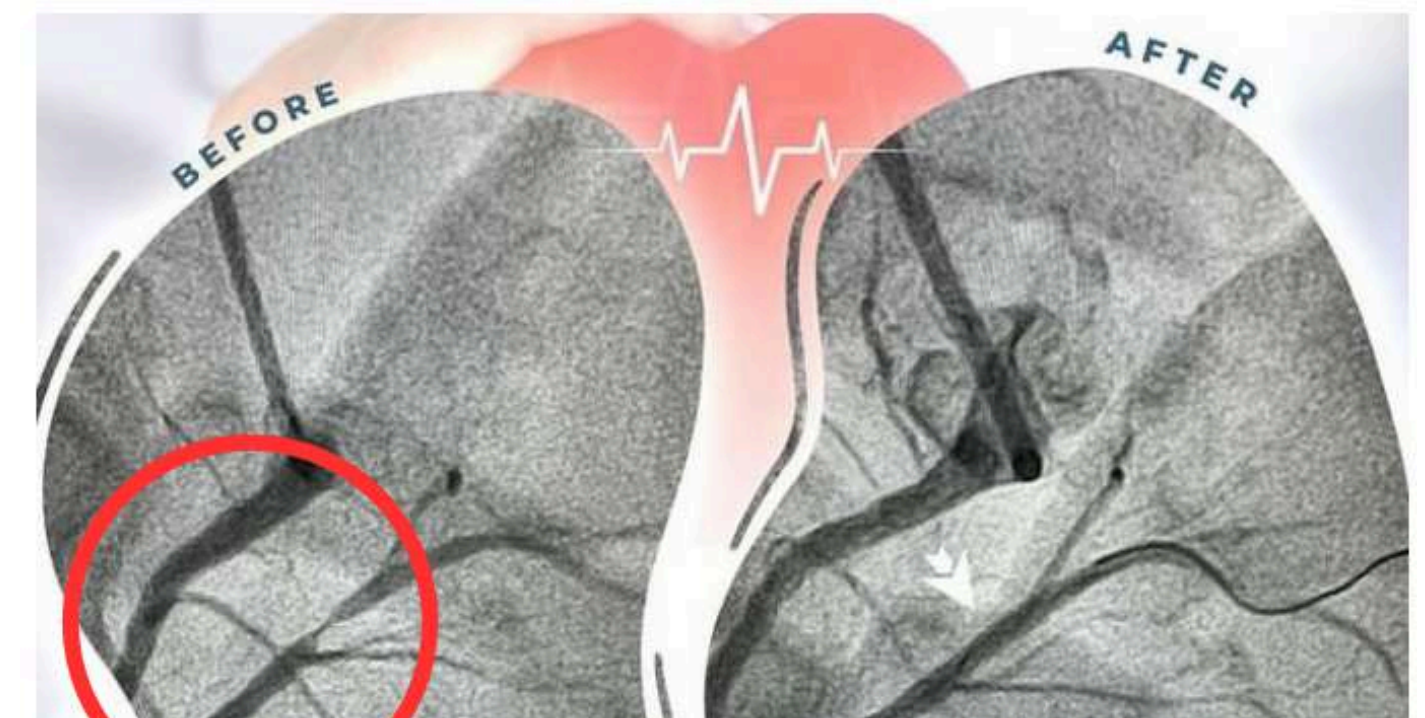
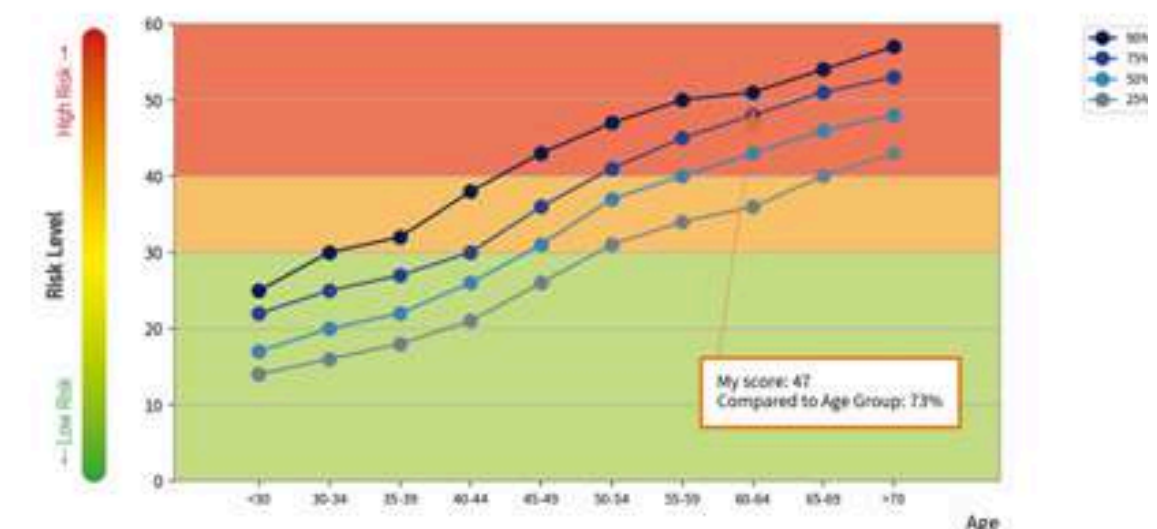
- Pontuação de cálcio coronário 207
- O ramo lateral posterior apresenta uma estenose grave proximal curta (>70%)
- O OM2 apresenta um segmento curto com contraste luminal reduzido, suspeita de estenose significativa (>50%)

O D1 apresenta uma placa calcificada ostial, suspeita de estenose moderada (cerca de 50%)




Personalized Cardiovascular Disease Risk Assessment

Comparison of Risk Scores by Age Group



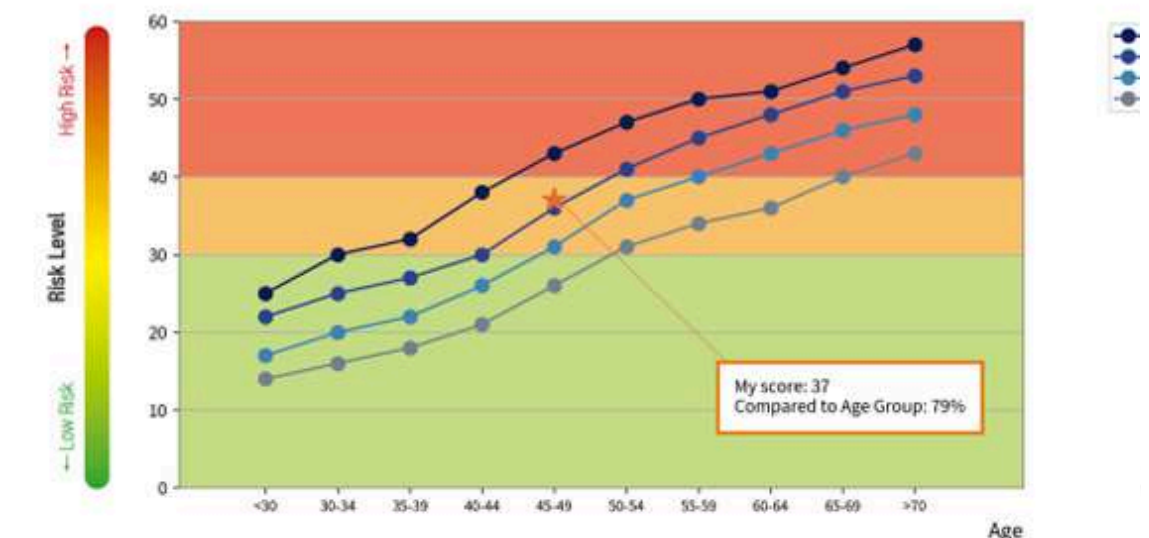
06 Mulher, 46 anos

- **Informações da paciente**
- Altura: 170 cm / Peso: 67 kg / IMC: 23,18 kg/m²
- LDL: 89 mg/dL
- HbA1c >8%
- **Relatório CVD do Dr. Noon**
- Pontuação >70%
- A TCAC revelou um escore de cálcio zero, mas a ferramenta identificou doença aterosclerótica e placas vulneráveis.
- Tratado com angioplastia.
- **Conclusão**
- Escore de cálcio coronário 0.
- Suspeita de estreitamento moderado a grave (>50%).
- A LCX média apresenta suspeita de estreitamento luminal grave (aparentemente >70%), seguido por alterações ectásicas.

Moderate-risk group	1-100	Mild atherosclerotic plaque is present, with mild to minimal coronary artery stenosis.		Between 1% and 5%	Favor statin for Age 40- LDL-C ≥70-190mg/dL diabetes mellitus (especially after age 2)
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Personalized Cardiovascular Disease Risk Assessment

Comparison of Risk Scores by Age Group



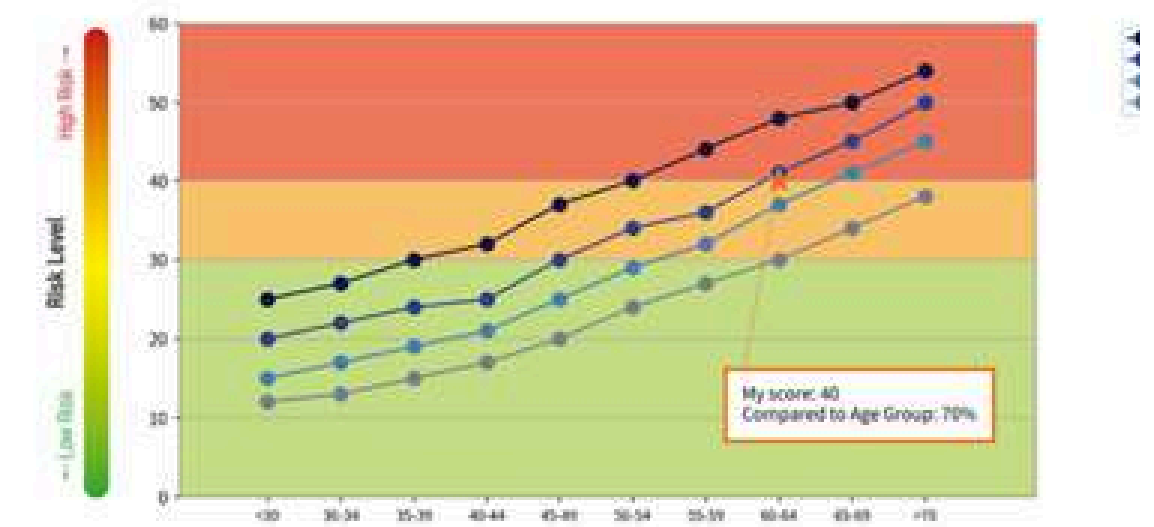
05 Mulher, 60 anos

- **Informações da paciente**
- Altura: 164 cm / Peso: 66 kg / IMC: 24,53 kg/m²
- LDL: 49 mg/dL
- HbA1c > 6%
- **Relatório CVD do Dr. Noon**
- 70% para idade e sexo
- alto risco
- A paciente foi encaminhada para angioplastia
- **Conclusão**
- Pontuação de cálcio coronário 762
- Estreitamento grave da RCA proximal (>70%)
- Estreitamentos moderados e graves da LCX ostial/proximal e do ramo OM1
- Doença difusa da LAD com suspeita de estenose >50%
- Estreitamento grave (>70%) de um grande primeiro ramo diagonal

Moderate-risk group	1-100	Mild atherosclerotic plaque is present, with mild to minimal coronary artery stenosis.		Between 1% and 5%	Favor stat LDL-C ≥7 di (respe
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Personalized Cardiovascular Disease Risk Assessment

Comparison of Risk Scores by Age Group



REFERÊNCIAS DE VENDAS



01 Referência de vendas - Emirados Árabes Unidos

GluCare, centro especializado em diabetes em Dubai

- Exames cardiovasculares adicionados aos exames de retinopatia diabética
- Promoção nas redes sociais orientada para o cliente



(-) Processo longo

(-) Dispendioso

(+) 5 anos F/U
Índice C 0,71

(+) Redução do
custo de DCV



Ihsan Almarzooqi • 1촌

Co-Founder and Managing Director at Glucare Health, Co-Founder of meta...

3일 • 수정됨 •

Real-life AI implementation Alert !!

[GluCare.Health](#) is implementing one of the world's first cases of an AI assisted Coronary Artery Calcium Scoring (CACS) equivalent diagnosis using a Retinal Camera, instead of the usual, expensive CT. In less than 30 seconds, we can get an equivalent CACS for a fraction of the cost.

Why solve this problem?

The current process a patient needs to go through to get a CT approved is chaotic: Cardiovascular risk assessment → Non-invasive Diagnostic testing → Laboratory tests → Further Imaging → Referral from a cardiologist → pre-approval → CT scan → CACS

Rejections rates are also typically high (>40% with some payers). Considering the relevance of cardio-metabolic syndrome, the whole process is simply takes too long, too expensive and dysfunctional.

We can now totally reverse this process and get a CACS at step 1.

The CE marked solution demonstrated similar risk stratification for cardiovascular events as CT-based CACS, especially over a 5-year follow-up period. Both have a concordance index of 0.71.

Our outcomes on this vs standard CT will be published soon. I suspect we'll find a lot of at-risk patients who would otherwise have been diagnosed using a CT too late (assuming they have access to it), and this implementation is expected to significantly reduce future CVD cost of care to our insurance partners.

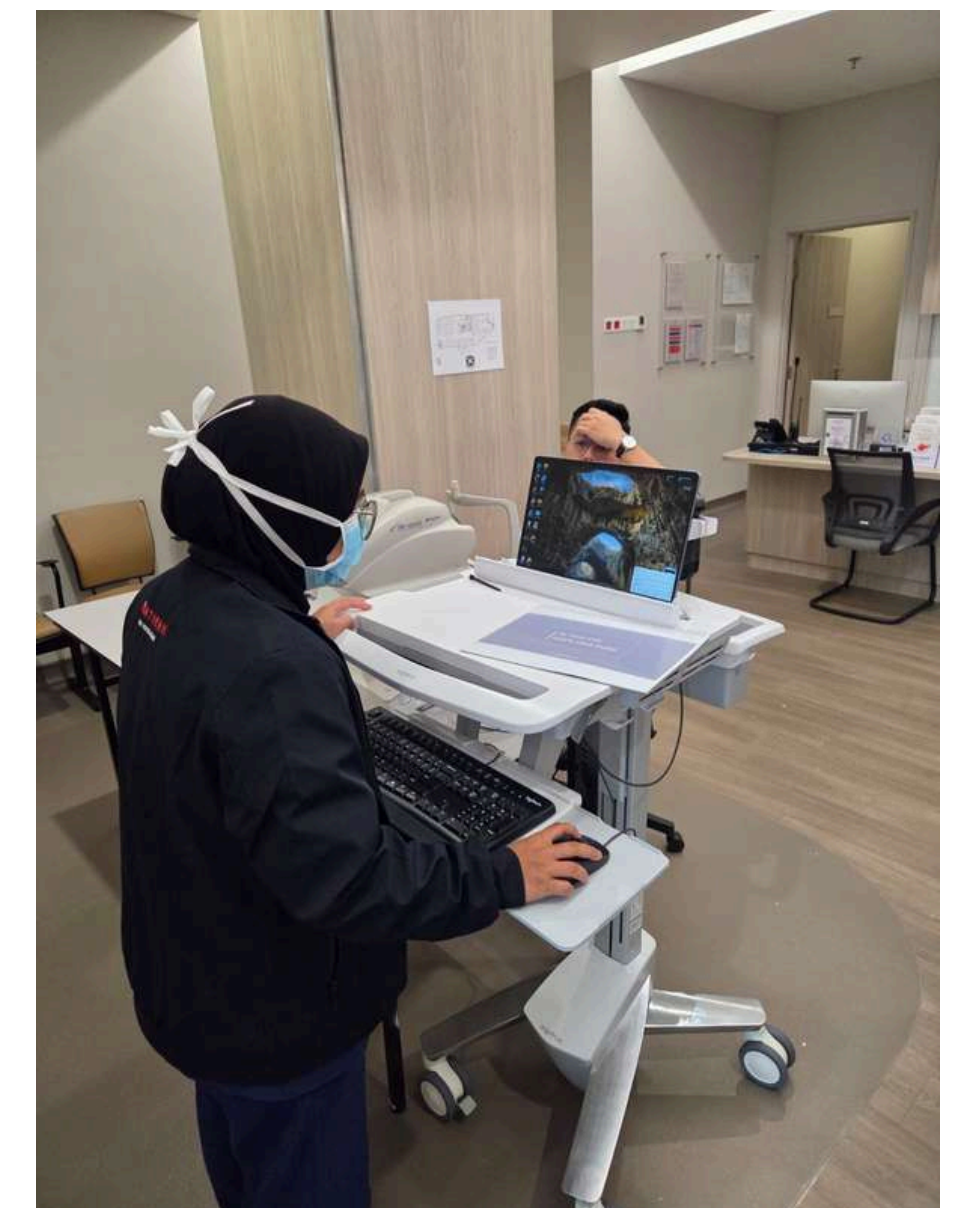
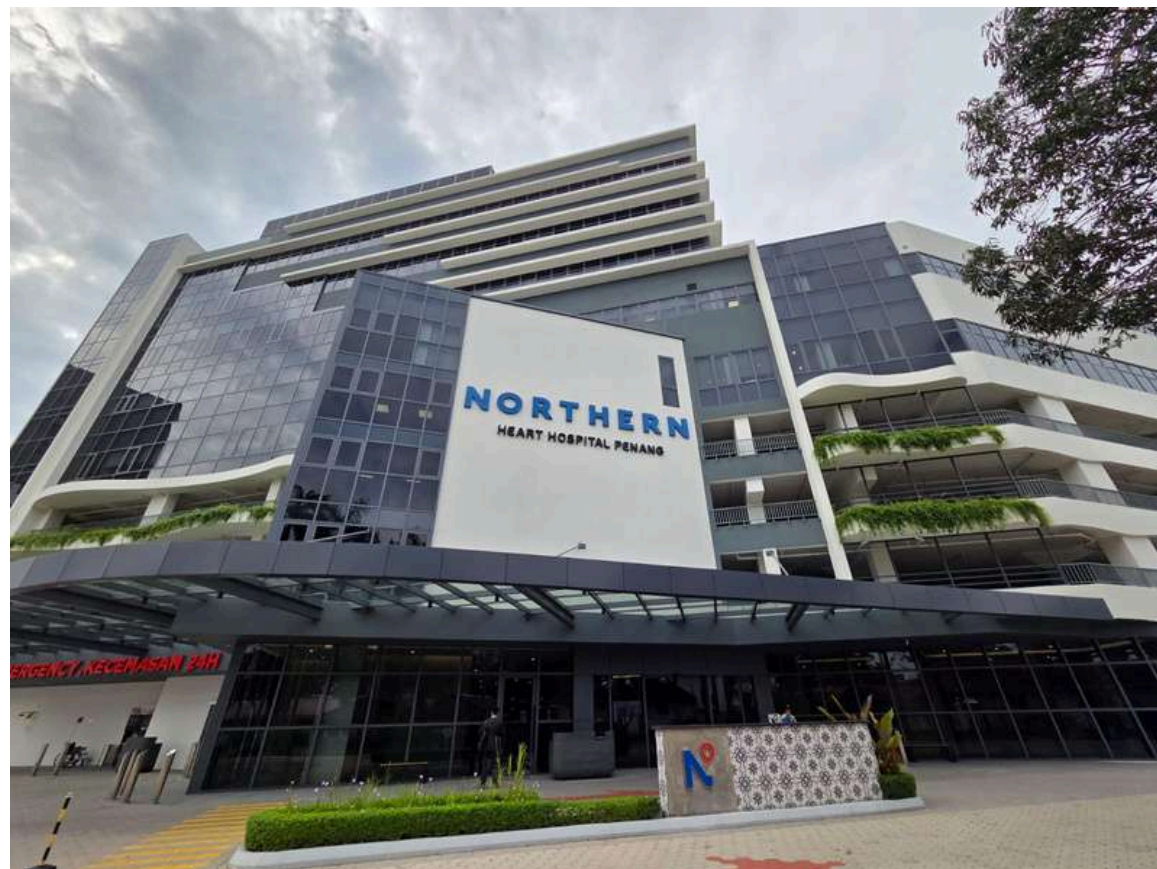
02 Referência de vendas - Itália

1. O NefroCenter é um grupo italiano de saúde especializado em nefrologia e diabetologia.
2. Mais de 200.000 tratamentos por ano, atendendo a mais de 1.000 pacientes em diálise e 60.000 pacientes com diabetes.
3. O Dr. Noon realizou um estudo piloto em janeiro de 2025 com 1.000 pacientes.



03 Referência de vendas - Malásia

1. O Northern Heart Hospital é um centro especializado em cardiologia líder no norte da Malásia, conhecido por seus cuidados cardíacos avançados e equipe clínica especializada.
2. Oferece serviços especializados em cardiologia, cirurgia cardíaca e cuidados vasculares, com o apoio de instalações credenciadas internacionalmente e uma equipe de especialistas altamente experientes.
3. O Dr. Noon adotou o programa de exames de saúde no centro de bem-estar.



04 Referência de vendas - Polônia


- 1. O primeiro projeto (1.200 testes) teve início em novembro de 2024.
- 2. Duas câmeras Fondus NW400 foram instaladas para o projeto, uma no centro de longevidade e outra em um laboratório.


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OBRIGADO!

GADO!

The image shows two computer monitors. The left monitor displays a web application titled "Reti-Intelligence". It has a search bar at the top with "Search" and "Reset" buttons. Below the search bar, there are filters for "From Date" (2022-01-01) and "To Date" (2022-01-01). A "Results" section shows a table with columns: "Item ID", "Item Name", "Item Type", "Item Status", "Item Location", "Item Size", "Item Weight", "Item Color", "Item Material", "Item Age", "Item Gender", "Item Breed", "Item Owner", "Item Address", "Item Phone", "Item Email", "Item Social Media", "Item Notes", "Item Tags", "Item Created", "Item Updated", "Item Deleted". The table lists various items, including "K20", "K21", "K22", "K23", "K24", "K25", "K26", "K27", "K28", "K29", "K30", "K31", "K32", "K33", "K34", "K35", "K36", "K37", "K38", "K39", "K40", "K41", "K42", "K43", "K44", "K45", "K46", "K47", "K48", "K49", "K50". The right monitor displays a detailed view of a specific item, showing a list of items and two circular images. The text "GADO!" is overlaid on the left side of the image.



CONTATO:

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