



**CoroPrevention**

PERSONALISED PREVENTION FOR  
CORONARY HEART DISEASE

# Introduction to the EXPERT tool

[www.coroprevention.eu](http://www.coroprevention.eu)



*This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 848056*

# What is the EXPERT tool?

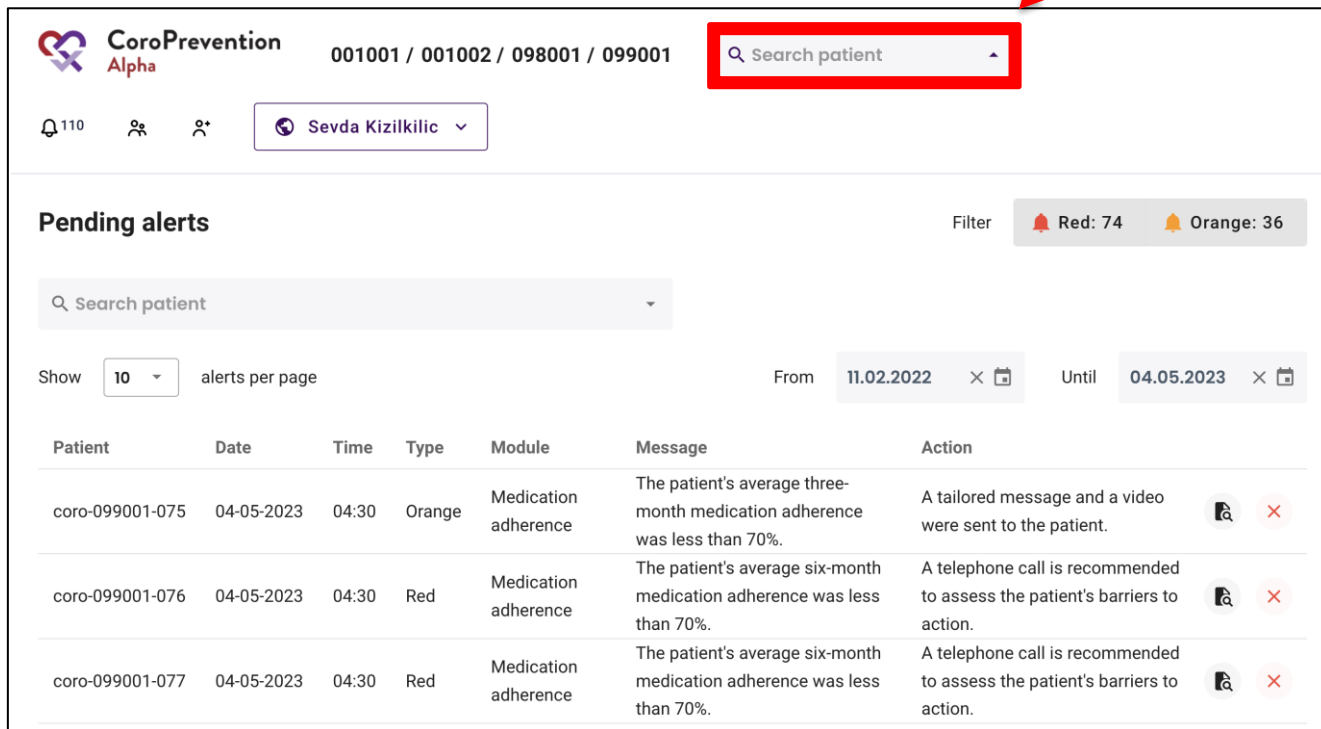
- Developed according to EAPC and ESC position statements/guidelines and the expert opinions of the EAPC EXPERT group members
- To select maximally clinically effective and medically safe training modalities for patients with cardiovascular disease
- Recommendation System to support prescription of personalized exercise training

# How to apply the EXPERT tool in CoroPrevention?

## Case description

- 64-year old male
- Medical history:
  - Arterial hypertension, obesity, hypercholesterolaemia, diabetes mellitus
  - Shoulder operation in 2015
  - Elective coronary angiography demonstrating severe 3-vessel disease in 2021
  - Elective CABG was performed
- Risk factors:
  - Obesity, diabetes, arterial hypertension, hypercholesterolaemia
  - Prior smoker, currently non-smoker
  - Low physical activity

# Open the EXPERT tool



The screenshot shows the CoroPrevention Alpha interface. At the top, there is a header with the logo, the text "001001 / 001002 / 098001 / 099001", and a search bar labeled "Search patient" which is highlighted with a red box and a red arrow. Below the header, there is a section for "Pending alerts" with a filter bar showing "Red: 74" and "Orange: 36". A search bar is also present in this section. Below the search bar, there is a table of alerts. The table has columns for Patient, Date, Time, Type, Module, Message, and Action. The table contains three rows of alerts, all related to medication adherence.

CoroPrevention Alpha 001001 / 001002 / 098001 / 099001

Search patient

110 Sevda Kizilkilic

Pending alerts Filter Red: 74 Orange: 36

Search patient

Show 10 alerts per page From 11.02.2022 Until 04.05.2023

Patient	Date	Time	Type	Module	Message	Action
coro-099001-075	04-05-2023	04:30	Orange	Medication adherence	The patient's average three-month medication adherence was less than 70%.	A tailored message and a video were sent to the patient.
coro-099001-076	04-05-2023	04:30	Red	Medication adherence	The patient's average six-month medication adherence was less than 70%.	A telephone call is recommended to assess the patient's barriers to action.
coro-099001-077	04-05-2023	04:30	Red	Medication adherence	The patient's average six-month medication adherence was less than 70%.	A telephone call is recommended to assess the patient's barriers to action.

# Open the EXPERT tool

The screenshot displays the CoroPrevention Alpha web application interface. At the top, the header includes the logo, the text 'CoroPrevention Alpha', and a series of identifiers: '001001 / 001002 / 098001 / 099001'. A search bar on the right contains the text 'coro-001001-327 (1958)'. Below the header, a navigation bar shows a bell icon with '110', user icons, and a dropdown menu for 'Sevda Kizilkilic'. The main content area is titled 'Patient' and features two buttons: 'Open medication decision support' and 'Open patient record'. The 'Open patient record' button is highlighted with a red rectangular box, and a red arrow points to it from the right. Below the buttons, there is a search bar with the text 'coro-001001-327 (1958)'. The interface is divided into two columns. The left column, titled 'General', contains a table with patient information: Subject ID (coro-001001-327), Gender (Male), Year of birth (1958), and Start date (12-02-2023). Below this table is a URL 'https://tablet-dev.coroprevention...' and a QR code. The right column, titled 'Consultations during the study', shows a progress bar with seven numbered circles; the second circle is highlighted in red. Below this, the 'Parameters' section lists 'Blood pressure' (130/80 mm Hg), 'Weight' (95 kg), and 'BMI' (34.9 kg/m²). At the bottom left, there is a button labeled 'Print QR code for ePRO application'.

CoroPrevention Alpha 001001 / 001002 / 098001 / 099001

coro-001001-327 (1958)

110

Sevda Kizilkilic

Patient

Open medication decision support

Open patient record

coro-001001-327 (1958)

General

Subject ID	coro-001001-327
Gender	Male
Year of birth	1958
Start date	12-02-2023

https://tablet-dev.coroprevention...

Print QR code for ePRO application

Consultations during the study

Parameters

Blood pressure	130/80 mm Hg
Weight	95 kg
BMI	34.9 kg/m²

# Open the EXPERT tool

**CoroPrevention Alpha** 001001 / 001002 / 001003 / 001004 / 098001 / 099001

coro-001002-330 (1956) X

Open medication decision support Open patient record

**Patient**

coro-001002-330 (1956)

**General**

Subject ID: coro-001002-330  
Gender: Female  
Year of birth: 1956  
Start date: 28-10-2022

<https://tablet-dev.coroprevention.eu/session/start/81dpsG0nKrQWy8A2MgHyowJ0IoAsq>

Print QR code for ePRO application  
Print QR code for mobile app Logout mobile app Patient dropped out

**Load scenario**

**Consultations during the study**

**Parameters**

Blood pressure: 129/121 mm Hg  
Weight: 65 kg  
BMI: 23.9 kg/m<sup>2</sup>  
50 mg/dL  
7%

**Monitored action**

Start moving: Inactive  
Healthy nutrition: Inactive  
Smoke-free living: Inactive  
Stress relief: Inactive  
Knowledge level: Beginner

**Most recent alerts**

Filter: Red: 0 Orange: 1 Yellow: 1

Date	Time	Type	Module	Message	Action
10-05-2023	04:30	Orange	Medication adherence	The patient's average three month medication adherence was less than 70%.	A tailored message and a video were sent to the patient. ✗
04-04-2023	04:30	Yellow	Medication adherence	The patient's average one month medication adherence was less than 70%.	Tailored videos were sent to the patient. ✓

# Open the EXPERT tool

The screenshot displays the CoroPrevention Alpha web application interface. At the top, the header includes the CoroPrevention Alpha logo, patient identifiers (001001 / 001002 / 001003 / 001004 / 098001 / 099001), a search bar with 'coro-001002-330 (1956', and a user profile for 'Ruben Pauwels'. Below the header, a patient summary bar shows details for 'coro-001002-330', including blood pressure (129/121 mm Hg), weight (65 kg), BMI (23.88 kg/m<sup>2</sup>), LDL (50 mg/dL), cholesterol (7 %), and a 'Beginner' status. A 'Close patient record' button is on the right.

The main content area is titled 'Your journey to a healthy lifestyle' and features two tabs: 'Status' and 'Goal setting'. The 'JOURNEY' tab is selected, showing a timeline for 'Time 01-05-2023'. The timeline includes a green bar labeled 'BE HEALTHY' and a red bar labeled 'JOURNEY'. A red arrow points to the 'JOURNEY' tab in the left sidebar. The 'Next step >' button is located at the bottom right of the main content area.

# Open the EXPERT tool

The screenshot displays the Coroprevention Alpha web application interface. At the top, the header includes the Coroprevention Alpha logo, patient identifiers (001001 / 001002 / 001003 / 001004 / 098001 / 099001), a search bar with 'coro-001001-001 (1950)', and a user profile for 'Ruben Pauwels'. Below the header, a patient summary bar shows various clinical data points: 'coro-001001-001', '120/80 mm Hg', '80 kg', '26.12 kg/m2', 'LDL: 87 mg/dL', '7.5 %', 'Medium', 'Intermediate', 'Medium', 'Non-smoker', 'Low !', and 'Health expert'. A 'Close patient record' button is on the right.

The main content area is titled 'Start moving' and features a sidebar with icons for home, heart, clipboard, person, stairs, wheelchair, and a mobile device. The 'Progress' tab is active, and the 'Goal setting' button is highlighted with a red box and a red arrow. The 'Current physical activity' section shows two entries: '4 days with a total of 30 minutes or more of at least moderate physical activity' (Reported on 06/03/2023) and a list of activities: 'Under-active regular' (orange), 'Fulfilled strength exercises' (green), and 'Did not perform flexibility exercises' (red). At the bottom, there are 'Go to journey' and 'Next step >' buttons.



# Open the EXPERT tool

The screenshot displays the CoroPrevention Alpha web application interface. At the top, the header includes the CoroPrevention Alpha logo, patient identifiers (001001 / 001002 / 001003 / 001004 / 098001 / 099001), a search bar with 'coro-001001-001 (1950)', and a user profile for 'Ruben Pauwels'. Below the header, a navigation bar shows various patient metrics: blood pressure (120/80 mm Hg), weight (80 kg), BMI (26.12 kg/m<sup>2</sup>), cholesterol (LDL: 87 mg/dL), glucose (7.5 %), and risk factors (Medium, Intermediate, Medium, Non-smoker, Low, Health expert). A 'Close patient record' button is on the right.

The main content area is titled 'Start moving' and includes a sidebar with icons for home, heart, goal, activity, diet, and more. The 'Goal' icon is selected. The 'Start moving' section has two tabs: 'WEEKLY SPORTS GOAL' (active) and 'DAILY ACTIVITY GOAL'. Under 'WEEKLY SPORTS GOAL', there is a progress bar for 'Weekly sports goal (kcal)' ranging from 'Start' to 'Finish - 2704', with a 'Min - 1803' mark. Below the progress bar, there are four settings: 'Moderate intensity', 'Daily sessions', '46 minutes', and '2 sessions'. A red box highlights the 'Edit sports goal' button, which is located to the right of the progress bar. Below the settings, there are three sections: 'Physical complaints' (listing 'Dizziness'), 'Favourite activities' (listing 'Running' and 'Aqua running'), and 'Favourite activities from childhood' (listing 'No data'). At the bottom, there are navigation buttons: '< Previous step' and 'Go to journey >'.


# Open the EXPERT tool

The screenshot displays the CoroPrevention Alpha web application interface. At the top, the header includes the logo, patient ID (001001 / 001002 / 001003 / 001004 / 098001 / 099001), a search bar, and a user profile (Ruben Pauwels). Below the header, a navigation bar shows various patient metrics: blood pressure (120/80 mm Hg), weight (80 kg), cholesterol (26.12 kg/m<sup>2</sup>), LDL (87 mg/dL), HbA1c (7.5%), and risk factors (Medium, Intermediate, Medium, Non-smoker, Low). A 'Close patient record' button is on the right.

The main content area is titled 'Start moving' and has two tabs: 'Progress' and 'Goal setting'. The 'Goal setting' tab is active, showing a 'WEEKLY SPORTS GOAL' section. This section includes a progress bar from 'Start' to 'Finish - 2704' with a 'Min - 1803' marker. Below the bar are settings for 'Moderate intensity', 'Daily sessions', '48 minutes', and '2 sessions'. There are also sections for 'Physical complaints' (listing 'Dizziness') and 'Favourite activities' (listing 'Running' and 'Aqua running').

A modal dialog box is open in the center, titled 'Please enter the patient's subject ID to edit sports goal.' It contains a text input field with the value 'coro-001001-001'. Below the input field are two buttons: 'Edit sports goal' (highlighted with a red box and a red arrow pointing to it) and 'Cancel'.

# EXPERT tool – Weekly sports goal

001001 / 001002 / 001003 / 001004 / 098001 / 099001

coro-001001-001 (1950)

Ruben Pauwels

coro-001001-001 120/80 mm Hg 80 kg 26.12 kg/m<sup>2</sup> LDL: 87 mg/dL 7.5 % Medium Intermediate Y1 Medium Non-smoker Low ! Health expert

Male, 73 years 90 bpm

EXPERT tool

Save and close Print

Weekly sports goal

Safety precautions

Primary indication

Select primary indication: CAD, PCI, CABG, and minimally invasive CABG

Key risk factor

Select risk factors: Dyslipidemia Hypertension

Exercise modifier

Select exercise modifiers:

Anomalies

Select anomalies occurred during exercise testing:

Medication

Select medication that affects exercise prescription: Beta Blocker Statin Insulin

Recommendation

Moderate Daily 20-60 >12 weeks Yes


- IMT after CABG surgery (from 30 up to 60 of Pimax, 20-30 min/session, 3-5 days/week)
- isometric handgrip exercise training
- >900 kcal/week of energy expenditure should be achieved
- Strength training exercises:  
2 days/week, 40-80% of 1RM, 12-15 reps/set

Saved prescription

Moderate Daily 20-60 >24 weeks Yes

- IMT after CABG surgery (from 30 up to 60 of Pimax, 20-30 min/session, 3-5 days/week)
- advice exercise modalities with large caloric expenditure (walking, jogging, stepping, etc)
- electro muscle stimulation in case of significant muscle weakness
- isometric handgrip exercise training
- >900 kcal/week of energy expenditure should be achieved
- Strength training exercises:  
2 days/week, 40-80% of 1RM, 12-15 reps/set  
2 days/week, 70-85% of 1RM, 8-10 reps/set, at least 21 sets

# EXPERT tool – Exercise prescription

 **CoroPrevention**  
Alpha

001001 / 001002 / 001003 / 001004 / 098001 / 099001

coro-001001-327 (1958)

Ruben Pauwels

coro-001001-327 130/80 mm Hg 95 kg 34.89 kg/m2 LDL: 40 mg/dL 5.6 % Low Low Yt High Prior Smoker Beginner

Male, 65 years 51 bpm

**EXPERT tool** Save and close Print

Weekly sports goal → Safety precautions

Primary indication

Select primary indication:

Key risk factor

Select risk factors: Dislipidemia Obesity Hypertension

Exercise modifier

Select exercise modifiers:

Anomalies

Select anomalies occurred during exercise testing:

Medication

Select medication that affects exercise prescription: Beta Blocker Statin

Recommendation

Moderate Daily 30-60 >24 weeks Yes

- advice exercise modalities with large caloric expenditure (walking, jogging, stepping, etc)
- isometric handgrip exercise training
- >900 kcal/week of energy expenditure should be achieved

- **Select applicable items**

# EXPERT tool – Primary indication

Primary indication

Select primary indication:

<input type="checkbox"/>	CAD, PCI, CABG, and minimally invasive CABG	Moderate	3-5	20-45	>6-8 weeks	Yes
<input type="checkbox"/>	Heart failure (with lowered LVEF) and CMP	Moderate or High Intensity Interval	2-5	30-60	>12 weeks	Yes
<input type="checkbox"/>	CRT, pacemaker, ICD	Low (Dependent on underlying heart disease, Dependent on device settings)	3-5	Dependent on underlying heart disease	>6-8 weeks	Dependent on underlying heart disease
<input type="checkbox"/>	Pulmonary arterial hypertension	Moderate-High or High Intensity Interval	3-5	>45	>12 weeks	Unknown
<input type="checkbox"/>	Peripheral artery disease	On pain threshold	3-5	30-60	>12 weeks	Yes
<input type="checkbox"/>	Left ventricular assist devices	Moderate	3-5	45-60	>8-10 weeks	Yes
<input type="checkbox"/>	Cardiac transplantation	Low-Moderate	3	30-40	>20 weeks	Yes
<input type="checkbox"/>	Valve disease/surgery (without CABG)	Moderate	3	>30	>6-8 weeks	Yes
<input type="checkbox"/>	Congenital heart disease	Moderate-High	3	30-60	>8 weeks	Yes
<input type="checkbox"/>	In-hospital phase (early mobilisation)	Low	Daily	Individualised	Dependent on hospitalisation duration	Yes
<input type="checkbox"/>	Chronic coronary syndrome	Moderate	3-5	30-60	>12 weeks	Yes
<input type="checkbox"/>	TIA or stroke in subacute phase	Moderate	3-5	20-60	>12 weeks	Yes

## Medical history:

- Arterial hypertension, obesity, hypercholesterolaemia, diabetes mellitus
- Shoulder operation in 2015
- Elective coronary angiography demonstrating severe 3-vessel disease in 2021
- Elective CABG was performed

# EXPERT tool – Primary indication



**CAD, PCI, CABG,  
and minimally  
invasive CABG**



Moderate



Intensity



3-5



Frequency



20-45



Session  
duration



>6-8 weeks



Programme  
duration



Yes



Strength  
training

# EXPERT tool – Key risk factor

Key risk factor

Select risk factors: **Dislipidemia** **Hypertension** **Obesity** **Type 2 Diabetes**

<input checked="" type="checkbox"/>	Obesity	☹ Moderate	📈 3-5	🕒 >60	📅 >24 weeks	👉 No
<input type="checkbox"/>	Type 1 Diabetes	☹ Moderate	📈 3	🕒 >30	📅 >12 weeks	👉 Yes
<input checked="" type="checkbox"/>	Type 2 Diabetes	☹ Moderate	📈 5	🕒 >30	📅 >12 weeks	👉 Yes
<input checked="" type="checkbox"/>	Hypertension	☹ Moderate-High	📈 Daily	🕒 30-60	📅 >6 weeks	👉 Yes
<input checked="" type="checkbox"/>	Dislipidemia	☹ Moderate	📈 3-5	🕒 >45	📅 >12 weeks	👉 Yes

## Risk factors:

- Obesity, diabetes, arterial hypertension, hypercholesterolaemia
- Prior smoker, currently non-smoker
- Low physical activity

# EXPERT tool – Exercise modifier

**Exercise modifier**

Select exercise modifiers:

<input type="checkbox"/>	CRT, pacemaker, ICD	Low (Dependent on underlying heart disease, Dependent on device settings)	3-5	Dependent on underlying heart disease	>6-8 weeks	Dependent on underlying heart disease
<input type="checkbox"/>	Sarcopenia/frailty	Low-Moderate	3	40-60	>12 weeks	Yes
<input type="checkbox"/>	COPD	Moderate or High Intensity Interval	2-5	20-60	>12 weeks	Yes
<input type="checkbox"/>	Renal Failure	Moderate	3	30-45	>12 weeks	Yes

## Medical history:

- Arterial hypertension, obesity, hypercholesterolaemia, diabetes mellitus
- Shoulder operation in 2015
- Elective coronary angiography demonstrating severe 3-vessel disease in 2021
- Elective CABG was performed



# EXPERT tool – Anomalies

## Anomalies

Select anomalies occurred during exercise testing:

☐

ICD threshold

Heart rate

bpm

☐

Ventricular tachycardia

Heart rate

bpm

☐

Atrial fibrillation, provoked during exercise testing

☐

Myocardial ischemic threshold

Heart rate

bpm

# EXPERT tool – Medication

**Medication**

Select medication that affects exercise prescription: **Statin** **Beta Blocker** ^

☒ **Beta Blocker**

☒ **Statin**

☐ **Insulin**

☐ **Meglitinide**

☐ **Sulfonylurea**

# EXPERT tool – Recommendation

Recommendation

☹ Moderate

📈 Daily

🕒 20-60

📅 >24 weeks

👉 Yes

🏃

- IMT after CABG surgery (from 30 up to 60 of Pimax, 20-30 min/session, 3-5 days/week)
- advice exercise modalities with large caloric expenditure (walking, jogging, stepping, etc)
- electro muscle stimulation in case of significant muscle weakness
- isometric handgrip exercise training
- >900 kcal/week of energy expenditure should be achieved
- Strength training exercises:  
2 days/week, 40-80% of 1RM, 12-15 reps/set  
2 days/week, 70-85% of 1RM, 8-10 reps/set, at least 21 sets

## EXPERT tool – Intensity

Light activity	Feels like you can maintain it for a long time. Easy to breathe and carry on a conversation.
Moderate activity	Feels like you can exercise for a long period, but probably not for hours. Your breathing is somewhat heavier but you are still able to speak in full sentences.
Vigorous activity	Feels like you cannot exercise very long, your breathing is heavy and you are not able to say a full sentence without gasping for extra air.

# EXPERT tool – Recommendation

Recommendation

😊 Moderate

📈 Daily

🕒 20-60

📅 >24 weeks

👉 Yes

🏃

- IMT after CABG surgery (from 30 up to 60 of Pimax, 20-30 min/session, 3-5 days/week)
- advice exercise modalities with large caloric expenditure (walking, jogging, stepping, etc)
- electro muscle stimulation in case of significant muscle weakness
- isometric handgrip exercise training
- >900 kcal/week of energy expenditure should be achieved
- Strength training exercises:  
2 days/week, 40-80% of 1RM, 12-15 reps/set  
2 days/week, 70-85% of 1RM, 8-10 reps/set, at least 21 sets

📄

✎

# EXPERT tool – Recommendation

**Intensity**

Format: Value Value: Moderate Dependencies: HR zone not to be determined

☐ Include High Intensity Interval

**Frequency**

Format: Value Value: 7 Dependencies:

**Session duration**

Format: Range Range: 2060 Max: Dependencies:

**Programme duration**

Format: Range Range: 24 Max: Dependencies:

**Strength training**

Strength training: No Dependencies:

**Additional training strategies**

- dependent on underlying heart disease
- advice exercise modalities with large caloric expenditure (walking, jogging, stepping, etc)
- end exercise session with high-intense or strength exercise to prevent hypoglycemia
- electro muscle stimulation in case of significant muscle weakness
- isometric handgrip exercise training

**Why did you change the recommendation?**

- Remember to record reason **why you made the change**

# EXPERT tool – Recommendation

coro-001001-327 130/80 mm Hg 95 kg 34.89 kg/m<sup>2</sup> LDL: 40 mg/dL 5.6 % Low Low Y1 High Prior Smoker Beginner

Male, 65 years 51 bpm

**Recommendation**

Moderate Daily 30-60 >24 weeks Yes isometric handgrip exercise training  
>900 kcal/week of energy expenditure should be achieved

**Intensity**

Format\* Value M Value\* Dependencies Heart rate

☐ Include High intensity interval

**Frequency**

Format\* Value 7 Value\* Dependencies

**Session duration**

Format\* Range 30 60 Dependencies

**Programme duration**

Format\* Range 24 Max Dependencies

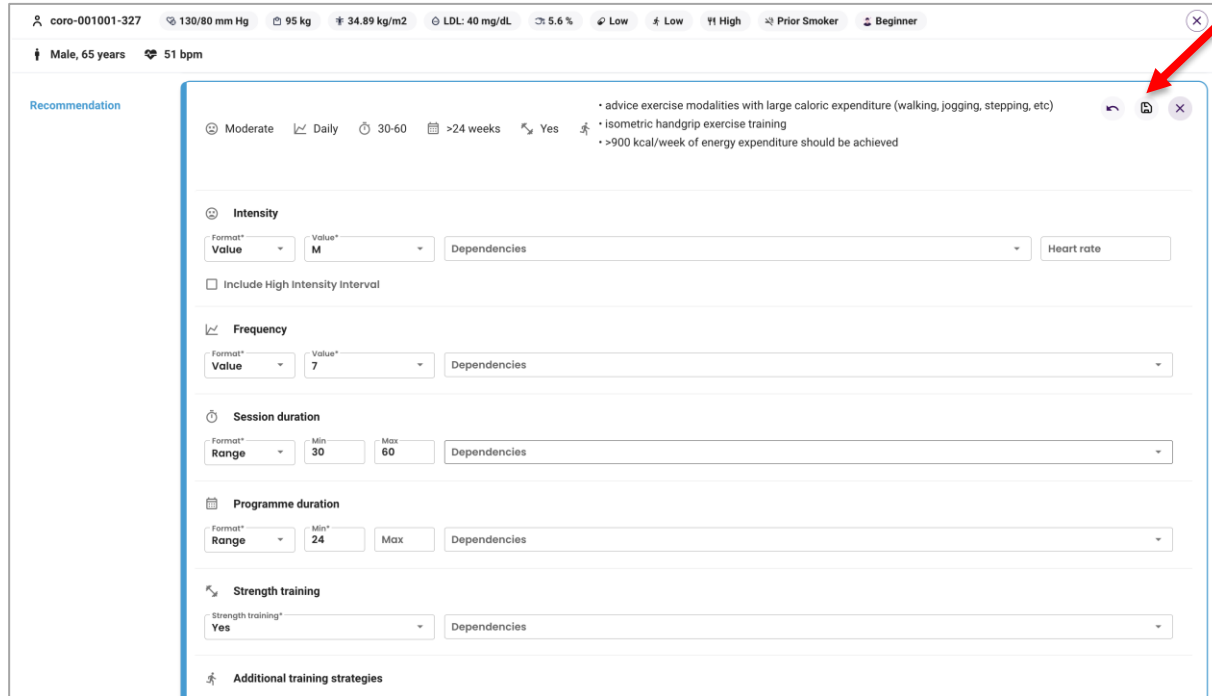
**Strength training**

Strength training\* Yes Dependencies

**Additional training strategies**

- At the top, **view** the **recommended** prescription
- At the bottom, **edit** the prescription

# EXPERT tool – Save exercise prescription



coro-001001-327 130/80 mm Hg 95 kg 34.89 kg/m<sup>2</sup> LDL: 40 mg/dL 5.6 % Low Low Y1 High Prior Smoker Beginner

Male, 65 years 51 bpm

**Recommendation**

Moderate Daily 30-60 >24 weeks Yes

• advice exercise modalities with large caloric expenditure (walking, jogging, stepping, etc)  
• isometric handgrip exercise training  
• >900 kcal/week of energy expenditure should be achieved

**Intensity**

Format\* Value M Value\* Dependencies Heart rate

☐ Include High intensity interval

**Frequency**

Format\* Value 7 Value\* Dependencies

**Session duration**

Format\* Range Min 30 Max 60 Dependencies

**Programme duration**

Format\* Range Min 24 Max Dependencies

**Strength training**

Strength training\* Yes Dependencies

**Additional training strategies**

- At the top, **view** the recommended prescription
- At the bottom, **edit** the prescription



# EXPERT tool – Save exercise prescription

The screenshot displays the EXPERT tool interface for a patient named 'coro-001001-001'. The patient's profile includes: Male, 72 years, 90 bpm, 120/80 mmHg, 80 kg, 26.12 kg/m<sup>2</sup>, LDL: 87 mg/dL, 7.5 %, Medium, Intermediate, Medium, Non-smoker, Low, and Health expert.

The interface is divided into sections: Exercise modifier, Anomalies, Medication, and Recommendation. The Exercise modifier section shows selected modifiers: COPD, CRT, pacemaker, ICD, Renal Failure, and Sarcopenia/frailty. The Anomalies section shows selected anomalies: Atrial fibrillation, provoked during exercise testing, ICD threshold, and Myocardial ischemic threshold. The Medication section shows selected medications: Beta Blocker, Insulin, Magnitude, Statin, and Sulfonamide.

The Recommendation section displays a list of recommendations, including:

- dependent on underlying heart disease
- advice exercise modalities with large caloric expenditure (walking, jogging, stepping, etc)
- end exercise session with high-intensity or strength exercise to prevent hypoglycemia
- electro muscle stimulation in case of significant muscle weakness
- isometric hand/grip exercise training
- >100 kcal/week of energy expenditure should be achieved
- electro muscle stimulation, balance training, tai chi
- electro muscle stimulation, IMT (30% of Pimax, 20-30min/session, 3 days/week)
- flexibility and balance exercises for patients with significant fall risk
- Strength training exercises:
  - Days/week, 70-85% of 1RM, 8-10 reps/set, at least 21 sets
  - Days/week, 70-85% of 1RM, 8-10 reps/set, at least 21 sets
  - Days/week, start at 30-70% 1RM (8-8 reps/set) and go to 70-85% 1RM (12 reps/set)
  - Days/week, 60-70% of 1RM, 8-12 reps/set
  - 2 days/week, 40-80% of 1RM, 12-15 reps/set
- HIT intensity:
  - [COPD] → H for 1 min/cycle
- HIT Sessions:
  - [COPD] → up to 6 cycles of 1 min, interspersed by 2-min active recovery, preceded by 10 min warm-up
- HIT frequency:
  - [COPD] → 2 to 3

A confirmation dialog box is overlaid on the screen, asking: "Did you verify that the recommended prescription is ok for this patient?". The dialog has two buttons: "Confirm" and "Close". A red arrow points to the "Confirm" button.

The bottom section of the interface shows the Intensity and Frequency settings. The Intensity section has a dropdown menu set to "Moderate" and a text field for "HR zone not to be determined". The Frequency section has a dropdown menu set to "7" and a text field for "Dependencies".

# EXPERT tool – Save exercise prescription

coro-001001-001 120/80 mm Hg 80 kg 26.12 kg/m<sup>2</sup> LDL: 87 mg/dL 7.5 % Medium Intermediate Medium Non-smoker Low 1 Health expert

Male, 73 years 90 bpm

**Exercise modifier**

Select exercise modifiers: **COPD** CRT, pacemaker, ICD Renal Failure Seroconversion/fatality

**Anomalies**

Select anomalies occurred during exercise testing: Atrial fibrillation, provoked during exercise testing ICD threshold Myocardial ischemic threshold

**Medication**

Select medication that affects exercise prescription: Beta Blocker Insulin Magnitude Statins Sulfonylureas

**Recommendation**

HR zone not to be determined Daily Dependent on underlying heart disease

Is this a new programme or a continuation of the existing one?

Create new Update existing Cancel

- dependent on underlying heart disease
- advice exercise modalities with large caloric expenditure (walking, jogging, stepping, etc)
- end exercise session with high-intensity or strength exercise to prevent hypoglycemia
- electro muscle stimulation in case of significant muscle weakness
- isometric handgrip exercise training
- >900 kcal/week of energy expenditure should be achieved
- electro muscle stimulation, balance training, tai chi
- electro muscle stimulation, IMT (20% of Pmax, 20-30min/session, 3 days/week)
- mobility and balance exercises for patients with significant fall risk
- strength training exercises:
  - Days/week, 70-85% of 1RM, 8-10 reps/set, at least 21 sets
  - Days/week, 70-85% of 1RM, 8-10 reps/set, at least 21 sets
  - 2 days/week, start at 50-70% 1RM (>6 reps/set) and go to 70-85% 1RM (12 reps/set)
  - 2 days/week, 60-70% of 1RM, 8-12 reps/set
  - 2 days/week, 40-80% of 1RM, 12-15 reps/set
- HIT intensity:
  - [COPD] => H for 1 min/cycle
  - HIT Sessions:
    - [COPD] => up to 6 cycles of 1 min, interspersed by 2 min active recovery, preceded by 10 min warm-up
  - HIT Frequency:
    - [COPD] => 2 to 3

**Intensity**


Format: Value: Moderate Dependencies: HR zone not to be determined Heart rate

☐ Include High Intensity Interval

**Frequency**

Format: Value: 7 Dependencies:

# EXPERT tool – Saved prescription



001001 / 001002 / 001003 / 001004 / 098001 / 099001

coro-001001-001 (1950)

Ruben Pauwels

coro-001001-001

120/80 mm Hg

80 kg

26.12 kg/m<sup>2</sup>

LDL: 87 mg/dL

7.5 %

Medium

Intermediate

Y1 Medium

Non-smoker

Low

Health expert

Male, 73 years

90 bpm

EXPERT tool

Save and close

Print

Weekly sports goal

Safety precautions

Primary indication

Select primary indication: CAD, PCI, CABG, and minimally invasive CABG

Key risk factor

Select risk factors: Dyslipidemia Hypertension

Exercise modifier

Select exercise modifiers:

Anomalies

Select anomalies occurred during exercise testing:

Medication

Select medication that affects exercise prescription: Beta Blocker Statin Insulin

Recommendation

Moderate

Daily

20-60

>12 weeks

Yes

- IMT after CABG surgery (from 30 up to 60 of Pimax, 20-30 min/session, 3-5 days/week)
- isometric handgrip exercise training
- >900 kcal/week of energy expenditure should be achieved
- Strength training exercises:  
2 days/week, 40-80% of 1RM, 12-15 reps/set

Saved prescription

Moderate

Daily


20-60

>24 weeks

Yes

- IMT after CABG surgery (from 30 up to 60 of Pimax, 20-30 min/session, 3-5 days/week)
- advice exercise modalities with large caloric expenditure (walking, jogging, stepping, etc)
- electro muscle stimulation in case of significant muscle weakness
- isometric handgrip exercise training
- >900 kcal/week of energy expenditure should be achieved
- Strength training exercises:  
2 days/week, 40-80% of 1RM, 12-15 reps/set  
2 days/week, 70-85% of 1RM, 8-10 reps/set, at least 21 sets

# EXPERT tool – Print

001001 / 001002 / 001003 / 001004 / 098001 / 099001

coro-001001-001 (1950)

Ruben Pauwels

coro-001001-001

120/80 mm Hg

80 kg

26.12 kg/m<sup>2</sup>

LDL: 87 mg/dL

7.5 %

Medium

Intermediate

Y1 Medium

Non-smoker

Low

Health expert

Male, 73 years90 bpm

EXPERT tool

Save and closePrint

Weekly sports goal

Safety precautions

Primary indication

Select primary indication: CAD, PCI, CABG, and minimally invasive CABG

Key risk factor

Select risk factors: DyslipidemiaHypertension

Exercise modifier

Select exercise modifiers:

Anomalies

Select anomalies occurred during exercise testing:

Medication

Select medication that affects exercise prescription: Beta BlockerStatinsInsulin

Recommendation

Moderate

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20-60

>12 weeks

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# EXPERT tool – Save and close

CoroPrevention Alpha 001001 / 001002 / 001003 / 001004 / 098001 / 099001

coro-001001-001 120/80 mm Hg 80 kg 26.12 kg/m<sup>2</sup> LDL: 87 mg/dL 7.5 % Medium Intermediate Y1 Medium Non-smoker Low Health expert

Male, 73 years 90 bpm

EXPERT tool

Weekly sports goal → Safety precautions

Primary indication: Select primary indication: CAD, PCI, CABG, and minimally invasive CABG

Key risk factor: Select risk factors: Dyslipidemia Hypertension

Exercise modifier: Select exercise modifiers:

Anomalies: Select anomalies occurred during exercise testing:

Medication: Select medication that affects exercise prescription: Beta Blocker Statin Insulin

Recommendation

Moderate Daily 20-60 >12 weeks Yes

- IMT after CABG surgery (from 30 up to 60 of Pimax, 20-30 min/session, 3-5 days/week)
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Saved prescription


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Save and close Print

Ruben Pauwels

# EXPERT tool – Safety precautions

001001 / 001002 / 001003 / 001004 / 098001 / 099001

coro-001001-001 (1950)

Ruben Pauwels

coro-001001-001120/83 mm Hg90 kg29.39 kg/m2LDL: 87 mg/dL7.5 %MediumIntermediateMediumNon-smokerLowHealth expert

Male, 73 years90 bpm

EXPERT tool

Weekly sports goalSafety precautions

Save and closePrint

COPD

CRT, pacemaker, ICD

- Rigorous arm-shoulder movements (aggressive ipsilateral arm movements) are not recommended, particularly in the first 2 months after implantation.
- Patients should be informed about the signs of arrhythmias, initiating loss of consciousness (dizziness, pre-syncope) and individual behaviour after therapy delivery.
- Sports with bodily contact is contraindicated due to possible device or lead failure (mechanical trauma including hematoma and lead fracture).
- Muscle electrostimulation as an additional training modality is contraindicated.
- Exercise induced paroxysmal atrial fibrillation should be excluded by prior exercise testing and Holter ECG.
- Patients with antibradycardic pacemakers
  - Ergometric testing of chronotropic competence prior to exercising and, if necessary, reprogramming (rate response mode) is recommended.
- Patients with cardiac resynchronization device (CRT-D, CRT-P)
  - Control of left ventricular pacing threshold, AV delay (effectiveness of biventricular pacing) and effectiveness of rate response under metabolic conditions may be necessary.
  - Patients should be informed about signs of progressive heart failure due to exercising.
- Patients with ICD
  - Define maximum training intensity at least 10-20 beats below ICD intervention frequency (exercise testing and Holter ECG prior to exercise prescription).
  - Exercise modalities, in which a short loss of consciousness is dangerous (i.e., swimming, diving, climbing i.e.) should be avoided in symptomatic patients with secondary preventive implantation indication or in patients with current ICD-discharge.
  - Avoid sudden increase in exercise intensity.
  - After appropriate or inappropriate ICD firing hemodynamic and pharmacologic (beta-blockers) stabilisation should be awaited before restart exercising.

Renal Failure