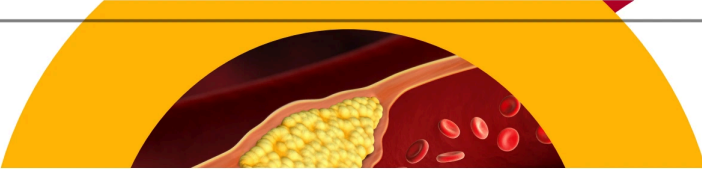




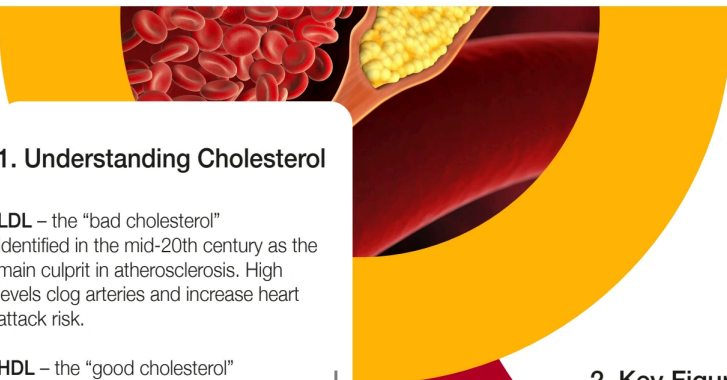
effective protection  
against strokes  
and heart attacks



**Rosulag<sup>®</sup>**  
rosuvastatin



# Cholesterol and Cardiovascular Health



## 1. Understanding Cholesterol

**LDL** – the “bad cholesterol”  
Identified in the mid-20th century as the main culprit in atherosclerosis. High levels clog arteries and increase heart attack risk.

**HDL** – the “good cholesterol”  
Described later as the lipoprotein that removes cholesterol from arteries and protects the heart.

**Triglycerides**  
Elevated levels, often linked to obesity and diabetes, add to cardiovascular

## 2. Key Figures in the History of Cholesterol Research

**Rudolf Virchow** (1850s, Germany): first described fatty deposits in arteries.

**Nikolai Anitschkow** (1913, Russia): fed rabbits cholesterol, proving its link to atherosclerosis.

**Ansel Keys** (1950s, USA): Seven Countries Study; linked diet, cholesterol, and heart disease.

**Brown & Goldstein** (USA, Nobel Prize 1985): discovered LDL receptors and explained cholesterol metabolism at the molecular level.

**Gerd Assmann** (1980s, Germany): led the PROCAM Study, creating powerful risk prediction models still used today.

**Akira Endo** (Japan, 1976): discovered the first statin (mevastatin) from a fungus.



**126 years of research  
before the first statin**

# Cholesterol and Cardiovascular Health

## 3. Evolution of Treatments

Before statins (1950s–1980s):  
Dietary advice – Reduce saturated fats;  
modest effects.

Bile acid sequestrants (cholestyramine,  
divistyramine, colestipol) – Introduced in the  
1960s, effective but poorly compliance.

Fibrates (clofibrate, gemfibrozil) – Lower  
triglycerides, raise HDL; limited impact on  
LDL.

Niacin (vitamin B3) – Lowers LDL, raises  
HDL, but side effects limited its use.

### **The statin revolution (since 1987):**

Akira Endo (Japan, 1976): discovered the  
first statin (mevastatin) from a fungus.  
Merck (USA, 1987): marketed lovastatin,  
the first statin approved for clinical use.  
Statins lower LDL powerfully, modestly  
raise HDL, and significantly reduce cardio-  
vascular events and mortality.

Today, they remain the cornerstone of  
cholesterol management,  
often combined with new drugs for  
high-risk patients.

## 4. Key Message for Patients

Lower LDL, protect your heart.  
Raise HDL, add protection.  
Control triglycerides, especially in  
diabetes and obesity.

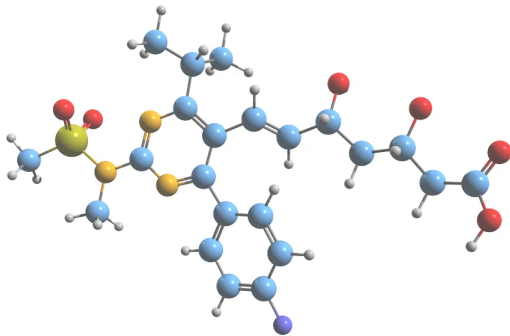
From Virchow's first microscope  
observations to Endo's fungal disco-  
very and modern statins, each step in  
this medical journey has dramatically  
improved cardiovascular health  
worldwide.

**Rosuvastatin the first choice  
from 2003 to the present day**





# 1. Introduction to Rosuvastatin



## 1. Overview

Rosuvastatin belongs to a group of drugs known as statins, used in dyslipidemia to modify blood cholesterol levels.

The aim of this type of medication is to reduce LDL-C ("bad cholesterol") and increase HDL-C ("good cholesterol"), thereby lowering cardiovascular risk.

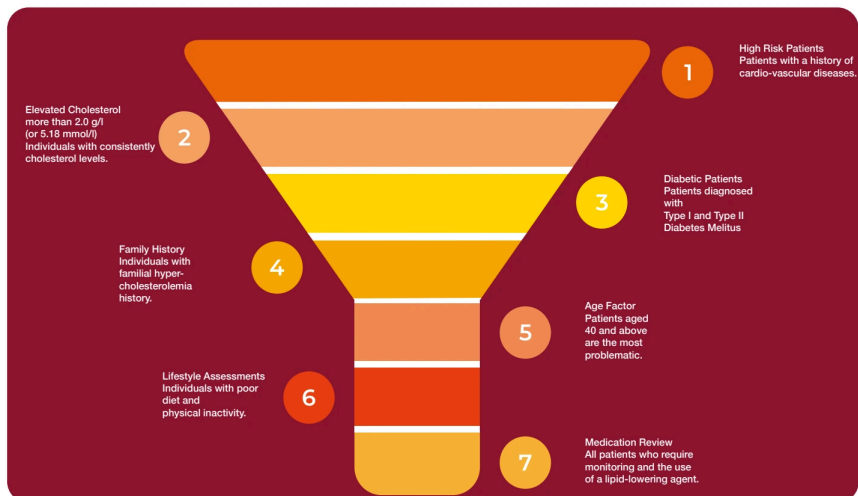
## 2. Cholesterol Management

Rosuvastatin effectively lowers low-density lipoprotein (LDL) cholesterol levels, reducing the risk of heart disease and stroke in patients with hyperlipidemia or dyslipidemia.

## 3. Preventive Treatment

Rosuvastatin is used as a preventive measure in patients with high cardiovascular risk, aiding in the long term management of cardio-vascular health and overall well-being.

# 2. Patient selection for Rosuvastatin





### 3. Rosuvastatin and other statines

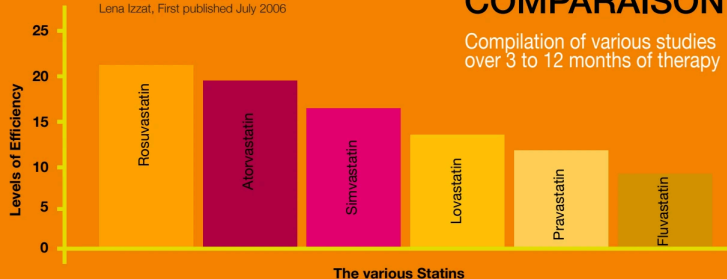
#### MECHANISM OF ACTION OF STATINS

1. Inhibition  
inhibits HMG-CoA  
reductase enzyme
2. Reduced  
decreased cholesterol  
synthesis in the liver occurs
3. Increased  
LDL receptors are  
upregulated on liver cells
4. Enhanced  
LDL uptake from the  
bloodstream improves significantly
5. Decreased  
overall levels of LDL  
cholesterol are lowered

The MERCURY II trial: benefits of rosuvastatin,  
The British Journal of Diabetes & Vascular Disease  
Lena tzatz, First published July 2006

#### COMPARAISON

Compilation of various studies  
over 3 to 12 months of therapy



### 4. Dosage and Administration of Rosuvastatin

1. initial dose  
Start with 10 mg  
once daily in the  
evening
2. maximum dose  
Not exceed 40 mg  
per day for adults
3. administration timing  
Best taken in the  
evening for optimal  
effectiveness
4. consistency  
Use consistently  
at the same  
time each day
5. renal adjustment  
Adjust dosage for  
patients with renal  
impairment as  
needed
6. liver function  
Monitor liver  
enzymes before  
and during  
treatment period
7. interactions  
Be cautious with  
drugs that affect  
CYP2C9 and  
CYP3A4
8. concomitant therapy  
Consider on therapy  
alongside lifestyle  
changes for best  
results
8. Rosulag  
Please consult  
the packing  
leaflet or the  
compendium  
for more information



# Rosulag<sup>®</sup>

## rosuvastatin

The most effective statin  
and also the best tolerated



## A complete range for every patient

### Dosage :

in overview, 1 coating tablet per day always at the same time, preferably in the evening.  
Choice of dosage depends on cholesterol level and therapeutic duration.

**Side effects:** muscle pain, nausea, headaches, fatigue, liver enzymes, increase diabetes melitus

### Clinical Indications and Benefits:

Rosulag<sup>®</sup> effectively lowers LDL cholesterol levels, reduces risk of cardiovascular events, and can improve overall heart health in patients with hypercholesterolemia, making it a vital part of preventive care treatment strategies in clinical setting.

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2. Maximizing Benefits and Minimizing Adverse Effects of Statins  
David S. Schade MD, James Blankenship MD, R. Philip Eaton MD  
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3. Statins: pros and cons  
Iago Pina-Fernandez, Maria Casal-Dominguez, Andrew L. Mammen,  
Med Clin (Barc). 2017 Dec 29;150(10):398-402

4. Usefulness of Statins as Secondary Prevention Against Recurrent  
and Terminal Major Adverse Cardiovascular Events / Kristen M. Tecson, PhDa  
Kristen.Tecson@bswhealth.org - Aaron Y. Kluger, MPHa - Andrea E. Cassidy-Bushrow, PhDa  
Coleena R. Jefferson, MTC - Jeffrey J. VanWormer, PhD - Peter A. McCullough, MD, MPH /  
The American Journal of Cardiology, Volume 176P57-42August 01, 2022

5. Rosuvastatin-Based Lipid-Lowering Therapy for the Control of LDL Cholesterol  
in Patients at High Vascular Risk

by Jose Maria Mosta, Carlos Escobar, ORCID  
J. Clin. Med. 2024, 13(7), 1894; <https://doi.org/10.3390/jcm13071894>

6. Rosuvastatin: A Review of the Pharmacology and Clinical Effectiveness  
in Cardiovascular Disease  
Ahai Luval, Wycliffe Mbagaya, Alistair S. Julian H Barth.  
Cin Med Insights Cardiol. 2012 Feb 1;5:17-33.

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Justification for the Use of Statins in Prevention: An Intervention  
Trial Evaluating Rosuvastatin (JUPITER): Rationale and Prespecified Analyses  
Paul M Ricker, MD, MPH  
Circulation: Cardiovascular Quality and Outcomes, Volume 2, Number 3, 2009