



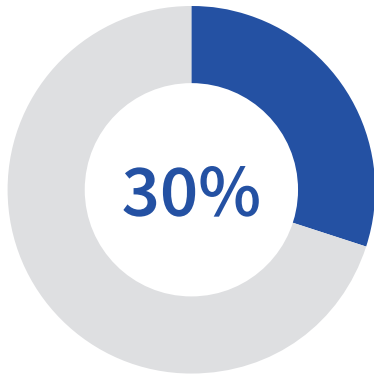
KNOW YOUR PATIENT'S RHEUMATOID
ARTHRITIS INFLAMMATION LEVEL

Manage Their Risk

A guide to controlling your patient's cardiovascular risk associated with their rheumatoid arthritis inflammation.



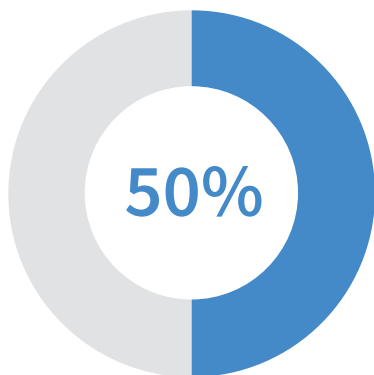
Risk of Cardiovascular Disease (CVD) is Increased in Patients with Rheumatoid Arthritis (RA)



30% of CVD risk in RA patients is attributed to systemic inflammation and other RA-related factors^{1,2}



CVD is the leading cause of mortality in RA patients, accounting for 30-40% of deaths³



RA patients have approximately 50% greater risk for CVD compared to the general population⁴

{ Traditional cardiovascular (CV) risk factors **DO NOT** fully explain the increased CV risk seen in RA patients⁵ }

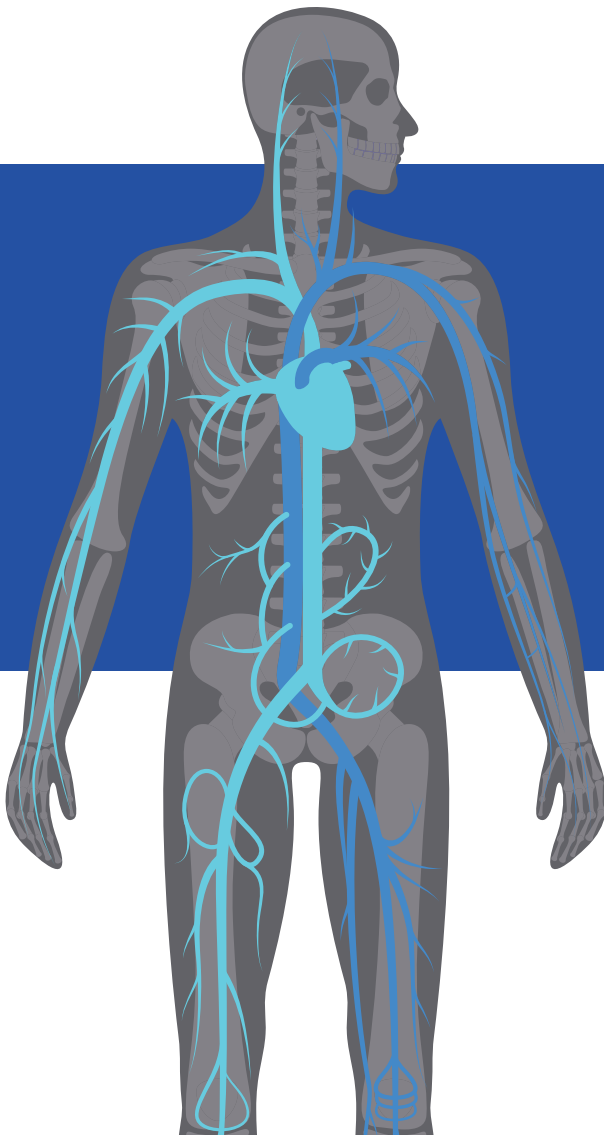
Current Prediction Tools Available for Cardiovascular Risk Assessment

CURRENT 10-YEAR RISK CATEGORIES⁶

LOW	BORDERLINE	INTERMEDIATE	HIGH
10 yr: <5%	10 yr: ≥5 to <7.5%	10 yr: ≥7.5 to <20%	10 yr: ≥20%

RISK DISCUSSION: Discuss lifestyle and treatments to reduce risk

EULAR guidelines suggest calculating general-population risk and multiplying by 1.5x to get an RA patient's CV risk⁷



This current approach treats all RA patients the same, **REGARDLESS OF DISEASE ACTIVITY** and tends to underestimate CV risk in RA patients^{8,9}

Identifying Patients Using Only Traditional Cardiovascular Risk Factors

PATIENT CASE



Patient Information

Age: 60

Gender: Female

Diagnosis: Rheumatoid Arthritis - 2002



Visit Type

Follow-up Appointment



Visit Notes

TJC28: 4

SJC28: 0

Pt Assessment: Patient reports doing fine

Patient Clinical Information

Diabetes Diagnosis	NO
Hypertension (High Blood Pressure) Diagnosis	NO
Other Cardiovascular Disease Diagnosis	NO
Tobacco Use (Past or Present)	NO

Absent a Vectra® Score, this patient's inflammation appears under control

Identifying Patients Using Traditional Cardiovascular Risk Factors and Vectra

PATIENT CASE



Patient Information

Age: 60

Gender: Female

Diagnosis: Rheumatoid Arthritis - 2002



Visit Type

Follow-up Appointment



Visit Notes

TJC28: 4

SJC28: 0

Pt Assessment: Patient reports doing fine

Patient Clinical Information

VECTRA SCORE 46 <small>HIGH (45-100)</small>	Diabetes Diagnosis	NO
	Hypertension (High Blood Pressure) Diagnosis	NO
	Other Cardiovascular Disease Diagnosis	NO
	Tobacco Use (Past or Present)	NO

Patients with RA have a CV risk similar to a non-RA patient who is 5-10 years older¹⁰

Vectra Cardiovascular Risk Incorporates a Personalized Assessment of Inflammation to Predict a Patient's 3-year Risk for a Cardiovascular Event



Vectra Score



3 Blood Biomarkers



Age



Patient Clinical Information*



Vectra CV Risk has been developed and internally validated utilizing Medicare **data from over 30,000 patients with RA**¹¹



80% of patients in validation cohort fell into the Intermediate or High CV risk categories¹¹



Vectra CV Risk has been **externally validated** in a younger independent cohort whose median age was 54¹²

Knowing Your Patient's Risk Associated with Their Inflammation Puts You in Control

PATIENT CASE



Patient Information

Age: 60
Gender: Female
Diagnosis: Rheumatoid Arthritis - 2002



Visit Type

Follow-up Appointment



Visit Notes

TJC28: 4
SJC28: 0
Pt Assessment: Patient reports doing fine

Patient Clinical Information

VECTRA SCORE	Diabetes Diagnosis	NO
46 HIGH (45-100)	Hypertension (High Blood Pressure) Diagnosis	NO
	Other Cardiovascular Disease Diagnosis	NO
	Tobacco Use (Past or Present)	NO

VECTRA CARDIOVASCULAR 3-YEAR RISK RESULT

2.1% RISK

Intermediate Risk

Patients with lower Vectra Scores have a lower average cardiovascular risk¹¹

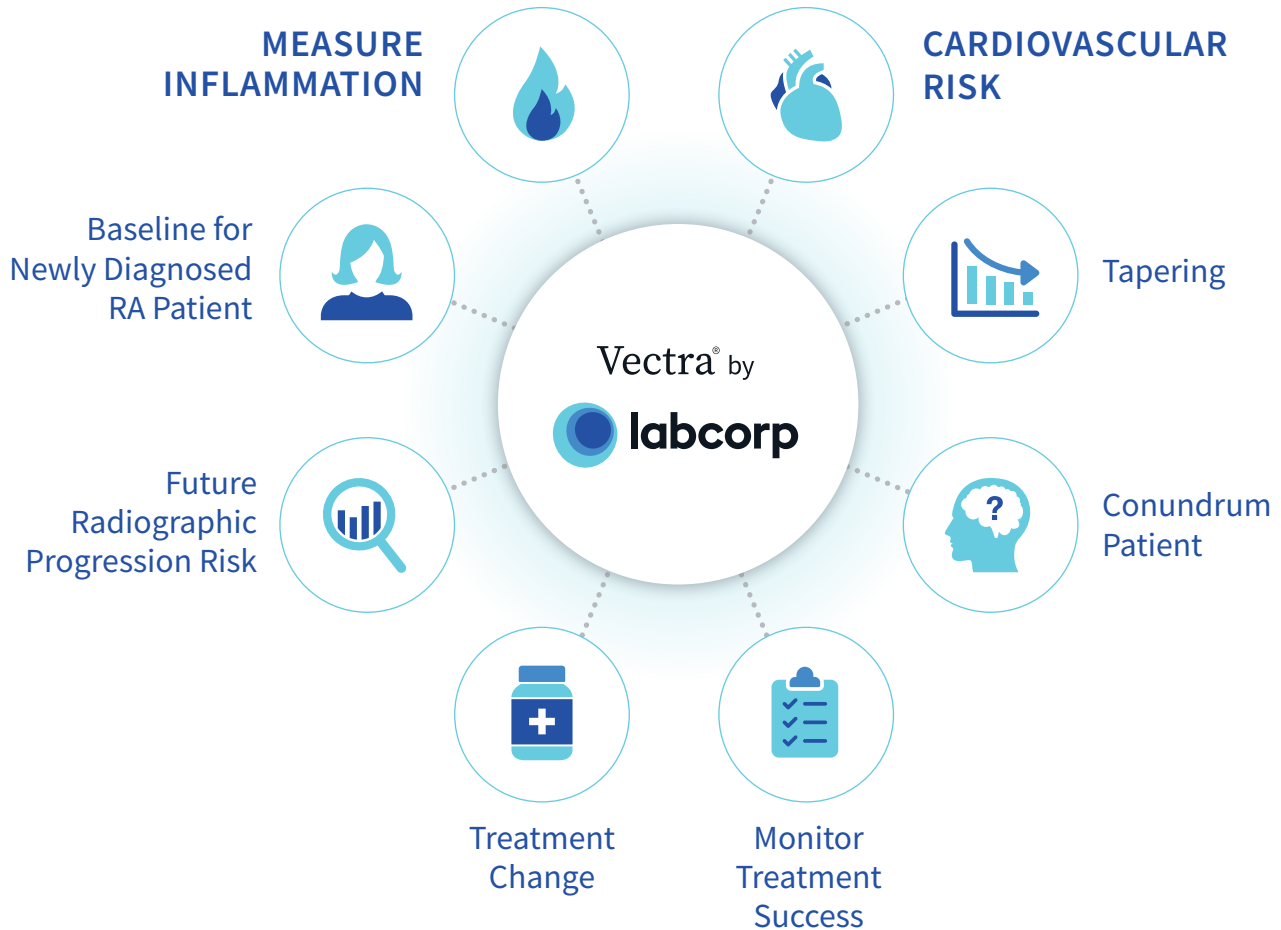
VECTRA SCORE	Diabetes Diagnosis	NO
25 LOW (1-29)	Hypertension (High Blood Pressure) Diagnosis	NO
	Other Cardiovascular Disease Diagnosis	NO
	Tobacco Use (Past or Present)	NO

VECTRA CARDIOVASCULAR 3-YEAR RISK RESULT

0.8% RISK

Low Risk

Vectra: Your Multi-Assessment Tool to Help You Reach Your Treat-to-Target Goals



Help reduce your patient's CV by utilizing Vectra to monitor **INFLAMMATION** with the goal of reaching the lowest possible level of disease activity

Vectra Cardiovascular Risk Report: A Personalized 3-Year Risk Result

3-YEAR CV RISK CATEGORIES			
LOW	BORDERLINE	INTERMEDIATE	HIGH
<1.3%	≥1.3 to <1.8%	≥1.8 to <5.2%	≥5.2%

Vectra CV result gives a patient's 3-year percentage risk of a heart attack, stroke or CV-related death.

Vectra Score factors in age, sex and adiposity of patient to provide a personalized measurement of inflammation.

Vectra CV score is calculated using the Vectra Score, three biomarkers, age and clinical information to generate a score ranging from 2-6.

The percentage risk identifies the category of cardiovascular risk for this patient. There are four categories: low, borderline, intermediate and high.

The patient's clinical information is captured on the Test Requisition Form and provides an overview of the patient's personal history.

Vectra[®] by labcorp
FINAL

PATIENT: Patient, Test
DOB: 00/00/0000
PATIENT ID: 0000000000
REPORT DATE: 10/13/2021

Vectra Cardiovascular Risk

VECTRA CARDIOVASCULAR RISK RESULT

2.5% RISK

RESULT: The patient has a 2.5% RISK for a cardiovascular event* in the next 3 years. This patient is in the INTERMEDIATE RISK category.

Cardiovascular Risk Categories: Low Risk <1.3% Borderline Risk ≥1.3% to <1.8% Intermediate Risk ≥1.8% to <5.2% High Risk ≥5.2%

*Cardiovascular (CV) event refers to having a heart attack, stroke or CV-related death.

PATIENT CLINICAL INFORMATION
Improved management of rheumatoid arthritis inflammation and other CVD risk factors may reduce CV risk.

VECTRA SCORE

72

HIGH
(45-100)

Age	60
Diabetes Diagnosis	NO
Hypertension (High Blood Pressure) Diagnosis	YES
Other Cardiovascular Disease Diagnosis [^]	NO
Tobacco Use (Past or Present)	NO

[^]The Test Requisition Form asked whether the patient has ever been diagnosed with: Atrial Fibrillation, Transient Cerebral Ischemia or TIA, Peripheral Artery Disease or Atherosclerosis, Heart Failure, Coronary Artery Disease (including Angina Pectoris or other forms of Ischemic Heart Disease), Aortic Aneurysm or Dissection, Nontraumatic Intracranial Hemorrhage (not leading to stroke)

VECTRA CARDIOVASCULAR RISK INTERPRETATION
This patient's Vectra Cardiovascular Risk Score is 4.0 and is associated with a 2.5% risk for a cardiovascular event* in the next 3-years. CV risk of ≥1.8% suggests that evaluation and management of rheumatoid arthritis inflammation and other CV risk factors may be beneficial.

VECTRA CARDIOVASCULAR RISK DESCRIPTION
Vectra Cardiovascular Risk is calculated using the Vectra Score, 3 of the Vectra biomarkers (leptin, MMP-3 and TNF-R1), patient age, and clinical information provided on the test requisition form. An algorithm uses these values to generate a Cardiovascular Risk Score and from it the percentage risk, which represents the likelihood of this patient having a CV event (heart attack, stroke, or CV-related death) in the next 3 years.

Vectra Cardiovascular Risk is only intended for rheumatoid arthritis patients age 40 and above with no prior history of heart attack or stroke. Vectra Cardiovascular Risk is not intended for patients using anti-IL-6R treatment, patients with a diagnosis of cancer (excluding non-melanoma skin cancer), or patients that have been hospitalized within the past 14 days.

This test was developed and its performance characteristics determined by Labcorp. It has not been cleared or approved by the Food and Drug Administration.

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Utilizing Vectra and Vectra Cardiovascular Risk to Help Guide Medical Management Considerations

<p> Low Vectra Score</p> <p> Low/Borderline Vectra CV Score</p>	<p>MONITOR:</p> <p>Test 2x per year, to monitor that patient remains in treatment goal</p>
<p> Low Vectra Score</p> <p> Intermediate/High Vectra CV Score</p>	<p>MONITOR:</p> <p>Test 2x per year, to monitor that patient remains in treatment goal</p> <p>CONSIDER REFERRAL:</p> <p>Consider referring patient to primary care physician, cardiologist or internist</p>
<p> High/Moderate Vectra Score</p> <p> Low/Borderline Vectra CV Score</p>	<p>TREATMENT CHANGE / THERAPY MONITOR:</p> <p>Test at 3-6 months after treatment change to evaluate if treatment is working</p>
<p> High/Moderate Vectra Score</p> <p> Intermediate/High Vectra CV Score</p>	<p>TREATMENT CHANGE / THERAPY MONITOR:</p> <p>Test at 3-6 months after treatment change to evaluate if treatment is working</p> <p>CONSIDER REFERRAL:</p> <p>Consider referring patient to primary care physician, cardiologist or internist</p>

Vectra CV Risk results should not be compared to each other

VECTRA® CARDIOVASCULAR RISK IS APPROPRIATE FOR:



Patients with RA



≥ 40 Years of Age



No History of Heart
Attack or Stroke

Vectra Cardiovascular Risk is not intended for patients using anti-IL-6R treatment in the last 90 days, patients with a diagnosis of cancer (excluding non-melanoma skin cancer) or patients who have been hospitalized within the past 14 days.

Add Vectra Cardiovascular Risk to Your Patient's Vectra Results at No Additional Cost

Provider Resources



A secure, mobile-optimized web application that lets you:

- Order tests and receive result reports
- Order supplies
- View on-screen visual cues with specimen collection instructions (AccuDraw)
- Pay a bill and access billing forms



Provider Support

A team of highly trained medical liaisons is available for consultation. For questions associated with the Vectra Test, please contact Customer Service.

Phone: 1-877-743-8639





Vectra[®] by  labcorp

CARDIOVASCULAR RISK

- Vectra CV Risk was developed for RA patients
- Provides an actionable result at point of care
- Alerts to the CV risk in RA patients
- Highlights the role of reducing systemic inflammation associated with RA

References

1. Crowson CS, Rollefstad S, Ikdahl E, Kitas GD, van Riel P, Gabriel SE, et al. Impact of risk factors associated with cardiovascular outcomes in patients with rheumatoid arthritis. *Ann Rheum Dis.* 2018;77(1):48-54. **2.** Solomon DH, Kremer J, Curtis JR, Hochberg MC, Reed G, Tsao P, et al. Explaining the cardiovascular risk associated with rheumatoid arthritis: traditional risk factors versus markers of rheumatoid arthritis severity. *Ann Rheum Dis.* 2010;69:1920-5. **3.** DeMizio DJ, Geraldino-Pardilla LB. Autoimmunity and Inflammation Link to Cardiovascular Disease Risk in Rheumatoid Arthritis. *Rheumatol Ther.* 2020;7(1):19-33. **4.** Aviña-Zubieta JA, Choi HK, Sadatsafavi M, Etrinan M, Esdaile JM, Lacaille D. Risk of cardiovascular mortality in patients with rheumatoid arthritis: a meta-analysis of observational studies. *Arthritis Rheum.* 2008;59(12):1690-7. **5.** Crowson CS, Liao KP, Davis JM, 3rd, Solomon DH, Matteson EL, Knutson KL, et al. Rheumatoid arthritis and cardiovascular disease. *Am Heart J.* 2013;166(4):622-8 e1. **6.** Arnett DK, Blumenthal RS, Albert MA, Buroker AB, Goldberger ZD, Hahn EJ, et al. 2019 ACC/AHA Guideline on the Primary Prevention of Cardiovascular Disease: A Report of the American College of Cardiology/American Heart Association Task Force on Clinical Practice Guidelines. *Circulation.* 2019;140(11):e596-e646. **7.** Agca R, Heslinga SC, Rollefstad S, Heslinga M, McInnes IB, Peters MJ, et al. EULAR recommendations for cardiovascular disease risk management in patients with rheumatoid arthritis and other forms of inflammatory joint disorders: 2015/2016 update. *Ann Rheum Dis.* 2017;76(1):17-28. **8.** Arts EE, Popa C, Den Broeder AA, Semb AG, Toms T, Kitas GD, et al. Performance of four current risk algorithms in predicting cardiovascular events in patients with early rheumatoid arthritis. *Ann Rheum Dis.* 2015;74(4):668-74. **9.** Alemao E, Cawston H, Bourhis F, Al M, Rutten-van Molken M, Liao KP, et al. Comparison of cardiovascular risk algorithms in patients with vs without rheumatoid arthritis and the role of C-reactive protein in predicting cardiovascular outcomes in rheumatoid arthritis. *Rheumatology (Oxford).* 2017;56(5):777-86. **10.** Kremers HM et al, High Ten-Year Risk of Cardiovascular Disease is Newly Diagnosed Rheumatoid Arthritis Patients, *Arthritis & Rheum* 2008; 58(8): 2268-2274. **11.** Curtis JR, Xie F, Crowson CS, et al. Derivation and internal validation of a multi-biomarker-based cardiovascular disease risk prediction score for rheumatoid arthritis patients. *Arthritis Res Ther.* 2020;22(1):282. Published 2020 Dec 4. doi:10.1186/s13075-020-02355-0 **12.** Curtis J, Sasso E, Hitraya E, Chin C, Bamford R, Ben-Shachar R, Gutin A, Flake D, Mabey B, Lanchbury J. External Validation of a Multi-biomarker-Based Cardiovascular Disease Risk Prediction Score for Rheumatoid Arthritis Patients [abstract]. *Arthritis Rheumatol.* 2020; 72 (suppl 10). <https://acrabstracts.org/abstract/external-validation-of-a-multi-biomarker-based-cardiovascular-disease-risk-prediction-score-for-rheumatoid-arthritis-patients/>. Accessed October 19, 2020.