

Johnson & Johnson



JnJ's \$13.1bn Acquisition of Shockwave Medical

Head of Division: F.Link

Analysts: L.Chaudhary, U.Kaya, J.Verscht

J&J's Acquisition of Shockwave Medical: A \$13.1bn leap into the future of cardiovascular care

Key facts and Deal Rationale

Key facts

Acquisition Overview: Johnson & Johnson (J&J) is set to acquire Shockwave Medical (SM) for \$13.1 billion, a move approved by both companies' shareholders. This strategic acquisition aims to significantly bolster J&J's position in the rapidly growing cardiovascular intervention market.

Strategic Expansion: The deal focuses on enhancing J&J's capabilities in treating coronary artery disease (CAD) and peripheral artery disease (PAD). This acquisition comes at a time when the demand for innovative solutions in cardiovascular care is increasing, positioning J&J to capitalize on one of the fastest-growing sectors in global MedTech.

Innovative Technology: SM offers groundbreaking intravascular lithotripsy (IVL) technology, a minimally invasive treatment that effectively addresses calcified CAD and PAD. Having treated approximately 400,000 patients worldwide, this technology stands out in the market. Additionally, SM's acquisition of Neovasc Inc. broadens J&J's MedTech portfolio by adding new solutions for refractory angina.

Financial Details: J&J's acquisition includes a 17% premium on SM's stock, which was trading at \$326.82 prior to rumors of the deal arose. The transaction will be financed through a combination of debt and cash. Analysts estimate the total addressable market for therapies similar to those offered by SM to be valued at around \$10 billion, highlighting the growth potential.

Securities Status: Post-acquisition, J&J will operate as the sole legal entity, meaning that Shockwave's stock will no longer be traded on the Nasdaq.

Advisors: The deal has been supported by financial advisory teams, with JP Morgan Securities LLC advising J&J and Perella Weinberg Partners advising Shockwave.

Deal Rationale

Enhanced Leadership: J&J strengthens its Cardiovascular MedTech position by acquiring Shockwave, which offers unique calcification treatment technology.

Comprehensive Solutions: Shockwave's IVL is the only solution for both coronary artery disease (CAD) and peripheral artery disease (PAD), boosting J&J's leadership in four high-growth cardiovascular segments.

Innovative Treatment: The acquisition provides J&J with a device that uses shockwaves to break down calcified plaque, similar to kidney stone treatment, complementing its electrophysiology leadership.

Synergistic Integration: The merger will leverage SM's clinical compatibilities with J&J's product portfolio, enhancing overall capabilities.

Complementary Platforms: SM's IVL and heart recovery heat pump (Abiomed) can enhance J&J's global commercial infrastructure and improve complex PCI procedures.

Accelerated Innovation: The deal is expected to speed up the adoption of J&J's technology innovations and provide supportive products for patients.

Future Growth Potential: SM's pipeline in CAD and PAD offers J&J opportunities for growth in underpenetrated markets and aligns with high-margin heart disease segments.

Johnson and Johnson – the business that is “changing the health for humanity”

Acquirer Overview

Key Business Facts

Diverse Business Segments: J&J operates in key sectors, including consumer health, pharmaceuticals, medical devices, and diagnostics. Its diverse product portfolio enables the company to cater to a broad range of healthcare needs, from everyday consumer health products to advanced medical technologies.

Innovation and Market Leadership: As a leader in manufacturing healthcare products, J&J is known for its commitment to innovation in healthcare solutions, driving advancements in pharmaceuticals, medical devices, and diagnostic services that improve patient care and health outcomes globally.

Global Workforce and Reach: Johnson & Johnson employs over 101,800 people globally, and its vast network includes 197 operating companies. These companies sell healthcare products and services in more than 175 countries, establishing J&J as a worldwide leader in healthcare.



Innovative Medicine Division

Patient-Centric Focus: J&J prioritizes patient needs by developing science-based solutions aimed at treating diseases and improving lives, ensuring that research aligns with real-world health challenges.

Targeted Therapeutic Areas: The segment focuses on critical areas such as oncology, neuroscience, cardiovascular health, pulmonary hypertension, and retina diseases, leveraging advanced research to unlock innovative treatments.

Commitment to R&D and Collaboration: Significant investment in research and development, along with strategic partnerships, enables J&J to accelerate drug discovery and deliver transformative therapies that enhance patient outcomes.

Johnson & Johnson Innovative Medicine

MedTech Division

MedTech Division Innovation: This division focuses on blending biology and technology to create solutions for difficult-to-reach areas in the body, with an emphasis on personalized treatments. They aim to minimize invasiveness while ensuring treatment is as suitable as possible.

Focus Areas and Specializations: The MedTech division specializes in several core areas, including interventional solutions, orthopedics, surgery, and vision, showcasing a broad range of medical expertise.

Pinpoint Precision and Restoring Anatomy: A key differentiator for this company is their focus on using precise, advanced techniques to restore anatomy. J&J's product portfolio emphasizes solutions designed for precision in various medical procedures.

Johnson & Johnson MedTech

J&J saw strong growth and strategic resilience amid emerging challenges

Johnson and Johnson Key Financials

Recent Financial History

Financial Performance: Between 2020 and 2022, J&J's share price rose significantly from \$149 to \$172, driven by an increase in net income from \$14.7 billion to \$18 billion and revenue growth from \$82.58 billion to \$91.14 billion, demonstrating strong financial health.

Share Price Surge: Following the acquisition, J&J's share price rebounded dramatically from a four-year low of \$145 to \$165, highlighting investor optimism about the deal's potential benefits. Historically, J&J's share price has fluctuated between \$150 and \$180, influenced by both company-specific factors and broader economic conditions.

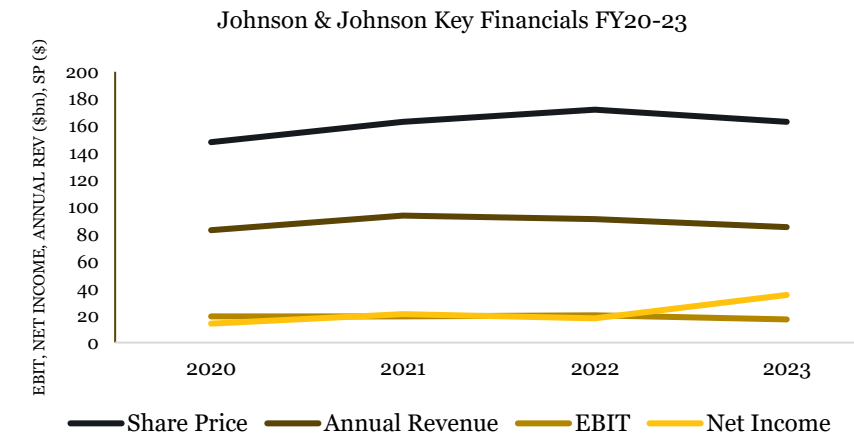
Dividend Policy: J&J boasts a dividend yield of 3.07%, more than double that of the S&P 500. The company has increased its dividends for 62 consecutive years, with a recent announcement of a 4.2% quarterly dividend hike. This consistent performance has earned J&J the reputation of having Wall Street's safest dividend.

Debt/Bond Issuances: On May 16, J&J issued a four-part bond rated AAA to finance the acquisition of Shockwave Medical. The bond's spread was notably tight at just 62 basis points above the risk-free benchmark, marking the narrowest 30-year spread for a dollar corporate borrower since 2009, which reflects strong investor confidence.

Return to Growth: Currently, J&J is experiencing a combination of robust growth, particularly in global sales during Q2 2024, and notable challenges, such as underperformance in its MedTech segment and rising tax rates. These factors have contributed to a downward trend in its share price since 2022, highlighting the need for continued innovation and strategic adjustments.

Key Financials – Q2 2024

Market Cap	\$391bn
Revenue	\$22.5bn
EBIT	\$6.4bn
EBITDA	\$7.8bn
Net Income	\$4.69bn
Net Income Margin	20.9%
EPS	\$15.06
Debt to Equity	0.58



J&J faces economic challenges amid inflation and patent expiries while advancing strategic investments and R&D

Johnson and Johnson Challenges and Outlook

US Dollar Strength

Impact of Unfavorable Exchange Rates: In April 2022, Johnson & Johnson faced a \$1.5 billion hit to its reported sales due to unfavorable exchange rate fluctuations. This financial strain was significant given that almost 50% of J&J's sales are generated outside of the United States, exposing the company to currency volatility in international markets.

Revised Profit Forecast: As a result of these challenges, J&J was forced to lower its profit forecast for 2022. The expected earnings per share (EPS) were adjusted from an initial range of \$10.15–\$10.35 down to a slightly reduced range of \$10.00–\$10.10, reflecting the impact of the exchange rate changes on its overall profitability.

Opex Increases and Margin Deterioration

Impact of High US Inflation on J&J's Margins: In 2022, rising inflation levels in the U.S., which reached decades-high rates, significantly worsened operating margins for Johnson & Johnson. The increased cost of doing business due to inflationary pressures contributed to a decrease in profitability, straining the company's financial performance.

Decline in Share Price: As a result of these inflation-driven challenges, J&J's share price declined during the same year. The rising operational costs, as highlighted in their financial reports, were a key factor behind this decline, reflecting the broader economic difficulties faced by the company.

JnJ's Performance during Challenging Times

Achievements in R&D and Dividends: In a notable accomplishment, Johnson & Johnson executed the largest operational research and development (R&D) program in its history. Additionally, 2022 marked the company's 60th consecutive year of increasing dividends, underscoring its commitment to shareholder value.

Strategic Investments and Share Repurchases: J&J completed a \$17 billion acquisition of BioMed, strengthening its position in the healthcare market. Furthermore, the company successfully executed half of its \$5 billion share repurchase program, enhancing shareholder returns through capital allocation initiatives.

Current Outlook

Stock Outlook Tied to US Economic Conditions: Johnson & Johnson's stock is expected to improve as concerns over a potential U.S. recession subside. With the Federal Reserve having room to cut interest rates, future earnings are forecasted to strengthen, providing optimism for investors.

Patent Expiry and Cost Concerns Priced In: The stock's current valuation already reflects anticipated challenges, such as rising costs and the expiration of key patents, including the patent for "Stelara," a treatment for moderate to severe plaque psoriasis. This suggests that the market has accounted for these potential hurdles.

Shockwave Medical: Pioneering intravascular lithotripsy growth & expanding global impact

Shockwave Medical Overview and Key Financials

Business Overview

History: Founded in **2009**, the company has grown rapidly due to the disruptive nature of its technology. It went public in **2019** with a successful IPO and has since expanded its market share in cardiovascular treatments, becoming one of the key innovators in the treatment of calcified arteries.

Operations: Headquartered in **Santa Clara, California**, Shockwave Medical operates globally, with its IVL technology being utilized in a growing number of countries. The company focuses on both product innovation and expanding its clinical education programs to drive adoption of its technology among medical professionals.

Core Technology & Products: Shockwave Medical specializes in **Intravascular Lithotripsy (IVL)**, a breakthrough technology that uses sonic pressure waves to treat **calcified plaque** in coronary and peripheral arteries. Their **Shockwave IVL catheters** are the flagship products, used primarily in **cardiovascular interventions** to assist in procedures such as stenting.

Main Divisions: The company primarily operates in two major treatment areas:

- **Coronary artery disease (CAD)** with their **Shockwave C2 coronary IVL catheter**.
- **Peripheral artery disease (PAD)** with their **Shockwave M5 and S4 catheters**, used for larger and smaller peripheral vessels, respectively.

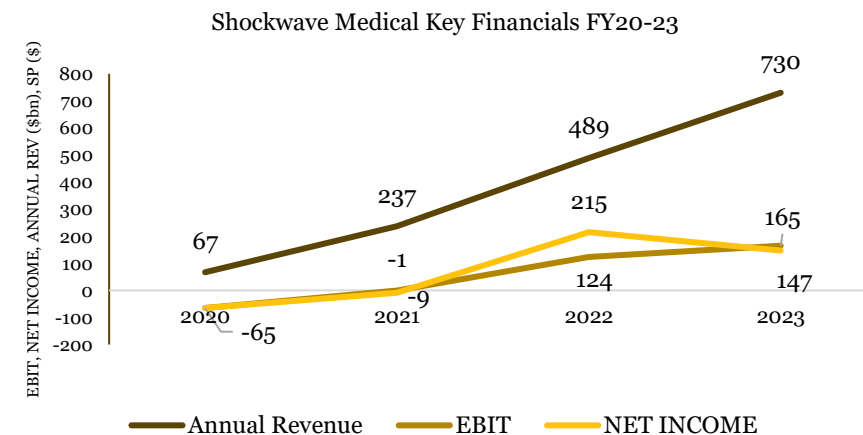
Financial Performance: Shockwave Medical has demonstrated **strong financial growth** since its IPO in 2019, driven by the increasing adoption of its IVL technology. Its **revenue growth has been exponential**, with a reported **153% increase in revenue** year-over-year in Q2 2023. Despite high R&D expenses and scaling operations, they have also started to achieve profitability.

Growth Opportunities: Shockwave Medical is positioned for continued growth due to:

- **Expanding indications** for its IVL technology across both coronary and peripheral artery treatments.
- The increasing prevalence of **calcified cardiovascular diseases** among aging populations.
- **International expansion** and further penetration into global markets.

Key Financials – Q1 2024

Market Cap	\$12.2bn
Revenue	\$787m
EBIT	\$168m
EBITDA	\$180m
Net Income	\$162m
Net Income Margin	20.75%
EPS	\$4.26
Debt to Equity	1.15



J&J's strategic moves in Cardiovascular Technology amidst industry competition must balance innovation and concentration & competition risks

Acquisition Strengths and Weaknesses

Deal Strengths

Leadership in Cardiovascular Intervention: Johnson & Johnson continues to strengthen its leadership in cardiovascular intervention, particularly in coronary artery disease (CAD) and peripheral artery disease (PAD). The acquisition of Shockwave gives J&J access to the only available technology for treating intimal and medical calcification, helping to maintain its market presence as it faces patent expirations.

Synergy with Existing Technologies: Shockwave's intravascular lithotripsy (IVL) technology is a complementary fit with J&J's Abiomed Impella heart pump, both crucial in performing complex percutaneous coronary interventions (PCI). These synergies enhance J&J's offerings in cardiovascular care and streamline procedures for patients with severe coronary conditions.

Regulatory Momentum: The Shockwave IVL System has already gained approval from China's NMPA and is cleared for treating peripheral arterial disease. This immediate market access strengthens J&J's position without waiting for further regulatory hurdles, allowing faster commercialization in key regions.

Strong Pipeline and Sales Growth: Shockwave brings a robust R&D pipeline, with 13 products and 27 programs under development, reflecting their commitment to innovation. J&J expects accelerated global sales growth, particularly in underpenetrated, high-growth markets where its expanded cardiovascular portfolio will make a significant impact.

Deal Weaknesses

Risk of Over-Reliance on IVL Technology: Shockwave's success largely depends on its intravascular lithotripsy (IVL) technology for treating calcified cardiovascular disease. If this technology encounters issues such as clinical failures or becomes obsolete, it could negatively impact J&J's financial outlook post-acquisition, highlighting the risk of depending on a single technology for sustained success.

Competitive Pressures in the Medical Device Industry: The medical device sector is highly competitive and rapidly evolving, with new innovations constantly being introduced. Rival companies may develop superior solutions, making Shockwave's IVL technology less attractive over time. This raises concerns that J&J may have missed other, potentially more advantageous merger and acquisition (M&A) opportunities by acting prematurely.

Models

Sortino sees a -1.7% downside to JnJ's share price of \$165.12 (18.10.2024)

Johnson and Johnson DCF

JnJ DCF Output

Using our DCF model, we calculate an implied share price of **\$162.26** for Johnson & Johnson. This valuation is based on a **6.2% WACC** and a **3.0% terminal growth rate**, considering J&J's diversified product portfolio and strategic acquisitions, which are expected to fuel steady revenue growth. The model also incorporates J&J's continued capital investments to support future expansion, reflected by stable CapEx relative to revenue. Furthermore, the company's strong financial position, with substantial cash reserves and manageable debt, reinforces the credibility of this valuation and positions J&J for sustained long-term growth.

Sensitivity Table

		Growth Rate				
		2.0%	2.5%	3.0%	3.5%	4.0%
WACC	5.2%	168.46	197.33	239.61	307.45	434.09
	5.7%	144.75	165.33	193.65	235.14	301.71
	6.2%	126.74	142.07	162.26	190.06	230.77
	6.7%	112.60	124.41	139.46	159.27	186.55
	7.2%	101.20	110.54	122.13	136.90	156.35

Implied Share Price Calculation

Sum of PV of FCF	63,549
Growth Rate	3.0%
WACC	6.2%
Terminal Value	468,659
PV of Terminal Value	347,680
Enterprise Value	411,229
(+) Cash	22,927
(-) Debt	40,100
(-) Minority Interest	-
Equity Value	394,056
Diluted Shares Outstanding (m)	2,428.5
Implied Share Price	\$ 162.26

Weighted Average Cost of Capital

Equity (k)	68,774,000
Debt (k)	29,332,000
Cost of Debt	2.63%
Tax Rate	15.0%
D/(D+E)	29.9%
After Tax Cost of Debt	2.2%
Risk Free Rate (10-Yr Treasury Yield)	3.8%
Expected Market Return	9.5%
Market Risk Premium	5.7%
Unlevered Beta (5-Yr Avg)	0.52
Levered Beta	0.71
E/(D+E)	70.1%
Cost of Equity	7.8%
WACC	6.2%

Company	No. of Shares Outstanding	Equity Value	Current Share Price	DCF Implied Share Price	DCF Implied Downside
Johnson and Johnson	2,407	\$ 397,484,074,295	\$ 165.12	\$ 162.26	-1.7%

Sortino's analysis shows that JnJ paid a 4.6% premium to Shockwave Medical DCF implied share price

Shockwave Medical DCF

Shockwave Medical DCF Output

Our DCF model suggests an implied share price of **\$341.41**, representing a **4.6% premium**. This valuation is built on a **6.7% WACC**, incorporating a 0.8% after-tax cost of debt and a 7% cost of equity, alongside a **5.3% growth rate** derived from market expectations and forecasts. We estimate revenue growth between 10% and 25% over the next five years, reflecting the company's current and forthcoming product offerings. Additionally, the model assumes a stable 4.9% CapEx as a percentage of revenue, while depreciation and amortization as a percentage of CapEx are expected to increase over time.

Sensitivity Table

		Growth Rate				
		4.8%	5.1%	5.3%	5.6%	5.8%
WACC	6.2%	347.65	418.37	528.35	722.88	1160.26
	6.5%	295.67	344.51	414.57	523.52	716.23
	6.7%	257.38	293.03	341.41	410.81	518.75
	7.0%	227.99	255.09	290.41	338.34	407.10
	7.2%	204.72	225.98	252.84	287.83	335.31

Implied Share Price Calculation

Sum of PV of FCF	721,214
Growth Rate	5.3%
WACC	6.7%
Terminal Value	16,302,245
PV of Terminal Value	11,787,321
Enterprise Value	12,508,535
(+) Cash	990,554
(-) Debt	731,863.0
(-) Minority Interest	
Equity Value	12,767,226
Diluted Shares Outstanding (m)	37,396.0
Implied Share Price	\$ 341.41

Weighted Average Cost of Capital

Equity (k)	12,527,933
Debt (k)	731,863
Cost of Debt	0.94%
Tax Rate	15.0%
D/(D+E)	5.5%
After Tax Cost of Debt	0.8%
Risk Free Rate (10-Yr Treasury Return)	3.8%
Premium (Yr Avg)	0.54
Levered Beta	0.57
E/(D+E)	94.5%
Cost of Equity	7.0%
WACC	6.7%

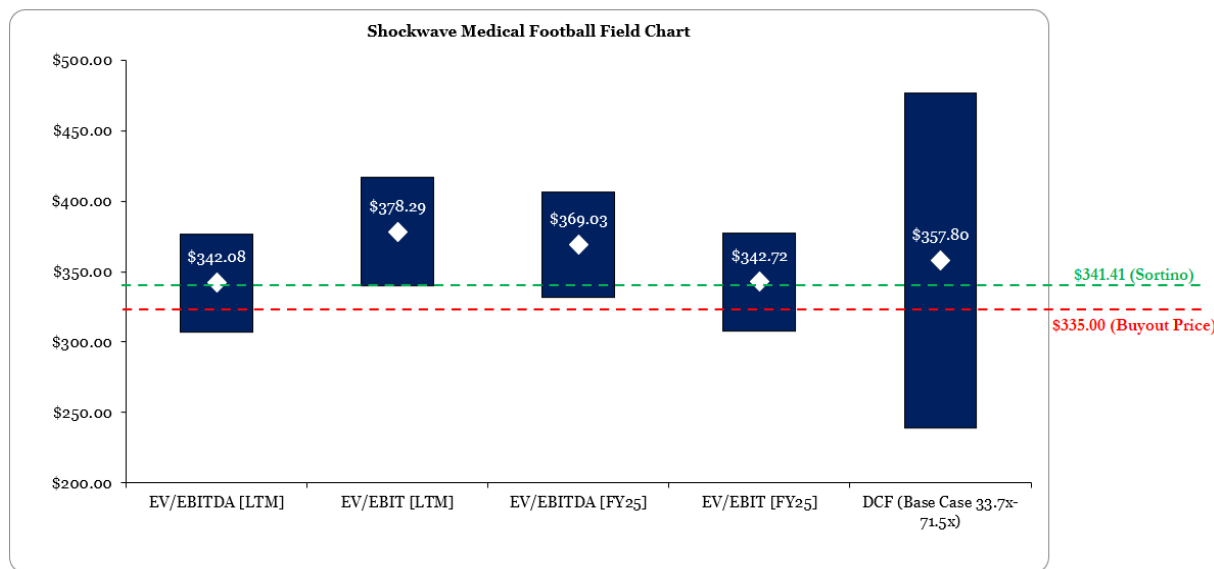
Company	No. of Shares Outstanding (m)	Equity Value	Share Price @		DCF Implied Share Price	DCF Implied Premium	
			Acq. Announcement	Actual Acq. Share Price			
Shockwave Medical	37	\$ 12,204,076,933	\$ 326.34	\$ 335.00	2.7%	\$ 341.41	4.6%

MM shows that the acquisition is dilutive for JnJ shareholders, resulting in a \$0.14 EPS dilution

Merger Model and Football Field Valuation

Merger Model Description & Football Field

The Consolidated Balance Sheet reflects **total assets of \$174.68 million** and a **debt-to-equity ratio of 1.54**. The increase in this ratio can be attributed to the acquisition, which was financed with **50% debt and 50% cash**. The transaction generated approximately **\$12.6 million in goodwill**, with a significant portion stemming from the target company's recent advancements in **cardiovascular intervention**.



Merger Model Output

EPS Accounting:	FY24
<u>Acquirer</u>	
Net income	38,867,407.91
EPS	16.00
Diluted shares outstanding (weighted avg., k)	2,428,500
<u>Target</u>	
Net income	153,966.87
EPS	4.12
Diluted shares outstanding (weighted avg., k)	37,397
<u>Transaction related expenses/income</u>	
Less: Interest expense from new deal debt	(203,411)
Less: Interest income on cash forgone	(387,810)
Less: Financing fee amortization	(3,886)
Taxes (assumed at acquirer's rate)	89,266
Total after tax transaction related income/ (expenses)	(505,841)
Pro Forma	38,515,534
Pro Forma Shares Outstanding	2,428,500
Pro forma	15.86
Acquirer standalone EPS	16.00
Accretion / Dilution per share	(0.14)
Accretion / Dilution %	-0.9%
Additional pretax synergies required to breakeven	413,969.21