

SECURITIES & EXCHANGE COMMISSION EDGAR FILING

Avinger Inc

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Corporate Issuer CIK: 1506928

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Avinger, Inc.

Dated January 2020

This free writing prospectus relates to a public offering of shares of Common Stock and should be read together with the preliminary prospectus dated January 24, 2020 (the "Preliminary Prospectus") that was included in Amendment No. 1 to the Registration Statement on Form S-1 relating to the offering of our Common Stock. On January 24, 2020, Avinger filed Amendment No. 1 to the Registration Statement on Form S-1 related to this offering of our Common Stock, which may be accessed for free by visiting EDGAR on the SEC website at http://www.sec.gov.

References to "Avinger," "we," "us" and "our" are used in the manner described in the Preliminary Prospectus.





SAFE HARBOR

These slides and the accompanying oral presentation contain forward-looking statements about Avinger, Inc. ("Avinger" or the "Company") and its business. All statements other than statements of historical fact contained in this presentation, including statements regarding business strategy and plans and objectives for future operations are forward-looking statements. Avinger has based these forward-looking statements on its estimates and assumptions and its current expectations and projections about future events. These forward-looking statements are subject to a number of risks, uncertainties and assumptions, including those that may be described in greater detail in the Company's most recent quarterly report on Form 10-Q or annual report on Form 10-K filed with the U.S. Securities and Exchange Commission (the "SEC"). In light of these risks, uncertainties and assumptions, the forward-looking events and circumstances discussed in this presentation are inherently uncertain and may not occur, and actual results could differ materially and adversely from those anticipated or implied in the forward-looking statements. Accordingly, you should not rely upon forward-looking statements as predictions of future events. Avinger undertakes no obligation to update publicly or revise any forward-looking statements for any reason after the date of this presentation, to conform these statements to actual results or to changes in Avinger's expectations.

Certain data in this presentation was obtained from various external sources, and neither the Company nor its affiliates, advisers or representatives has verified such data with independent sources. Accordingly, neither the Company nor any of its affiliates, advisers or representatives makes any representations as to the accuracy or completeness of that data or to update such data after the date of this presentation. Such data involves risks and uncertainties and is subject to change based on various factors.

The trademarks included herein are the property of the owners thereof and are used for reference purposes only. Such use should not be construed as an endorsement of the products or services of the Company.



FREE WRITING PROSPECTUS

This presentation highlights basic information about us and the offering. Because it is a summary that has been prepared solely for informational purposes, it does not contain all of the information that you should consider before investing in our company. Except as otherwise indicated, this presentation speaks only as of the date hereof.

This presentation does not constitute an offer to sell, nor a solicitation of an offer to buy, any securities by any person in any jurisdiction in which it is unlawful for such person to make such an offering or solicitation.

Neither the Securities and Exchange Commission (the "SEC") nor any other regulatory body has approved or disapproved of our securities or passed upon the accuracy of adequacy of this presentation. Any representation to the contrary is a criminal offense.

This presentation includes industry and market data that we obtained from industry publications and journals, third-party studies and surveys, internal company studies and surveys, and other publicly available information. Industry publications and surveys generally state that the information contained therein has been obtained from sources believed to be reliable. Although we believe the industry and market data to be reliable as of the date of this presentation, this information could prove to be inaccurate. Industry and market data could be wrong because of the method by which sources obtained their data and because information cannot always be verified with complete certainty due to the limits on the availability and reliability of raw data, the voluntary nature of the data gathering process and other limitations and uncertainties. In addition, we do not know all of the assumptions that were used in preparing the forecasts from the sources relied upon or cited herein.

We have filed a Registration Statement on Form S-1 with the SEC, including a preliminary prospectus dated January 13, 2020 (as amended, the "Preliminary Prospectus") and an amended Form S-1/A dated January 24, 2020, with respect to the offering of our securities to which this communication relates. Before you invest, you should read the Preliminary Prospectus (including the risk factors described therein) and, when available, the final prospectus relating to the offering, and the other documents filed with the SEC, for more complete information about us and the offering. You may obtain these documents, including the Preliminary Prospectus, for free by visiting EDGAR on the SEC website at http://www.sec.gov.

Alternatively, we or any underwriter participating in the offering will arrange to send you the prospectus if you request it by contacting Aegis Capital Corp., Attn: Syndicate Department, 810 7th Avenue, 18th Floor, New York, NY 10019, by email at syndicate@aegiscap.com, or by telephone (212) 813-1010.

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Offering Details

Issuer	Avinger, Inc.
Ticker/Exchange	AVGR / Nasdaq Capital Market
Gross Offering Proceeds	\$6,000,000 (excluding over-allotment option)
Over Allocation	15%
Securities Issued	Common Stock
Use of Proceeds	For working capital, payment of interest on debt and general corporate purposes, which may include research and development of the Lumivascular platform products, clinical studies, and commercial expansion.
Book-Runner	Aegis Capital Corporation



Investment Highlights

Disruptive Image-Guided Therapy for PAD

Differentiated Solution

The first and only intravascular image-guided, catheter-based system for diagnosis and treatment of PAD

Scalable Financial Model

Ramping procedures expected to drive increased revenue and contribution margin, creating operating profit leverage

Large Market Opportunity

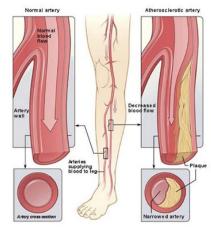
In the U.S. over 21 million people projected to suffer from PAD by 2020'; U.S. atherectomy market estimated to be >\$500 million

Extensive IP Portfolio

155 total patents granted and pending covering key aspects of design, manufacturing and therapeutic use of OCT imaging platform and devices

Complementary Product Road Map

Multiple product launches 2020-2022 anticipated in to expand the addressable market and drive new revenue opportunities



PERIPHERAL ARTERY DISEASE (PAD)



(1) The Sage Group 2010 (2) Millennium Research Group, December 2014.

PAD Image by Jmarchn - Own work, CC BY-SA 3.0 https://commons.wikimedia.org/w/index.php?curid=31200275

Real-time Intravascular Visualization during Treatment of PAD



Imaging Console "Razor"

- · 75+ active installed units
- FDA 510(k) cleared
- CE Marking
- Re-usable, multi-display mobile unit
- High-definition OCT imaging for diagnostic and therapeutic applications

Catheters "Razor Blade"





- · First-ever Image-guided atherectomy catheter
- Next Generation Pantheris FDA clearance May 2018
- Pantheris SV (Small Vessel) FDA clearance April 2019





- Only image-guided CTO crossing catheters
- Three product configurations on the market
- · CONNECT II best-in-class clinical data



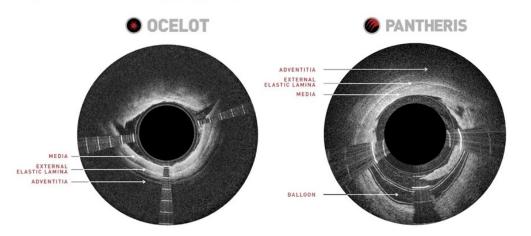
OVERVIEW | 2020

OCT IMAGE-GUIDED THERAPY

Unsurpassed Visualization – high definition, light-based, no ionizing radiation

Optical Coherence Tomography (OCT)

Fluoroscopy (X-Ray)



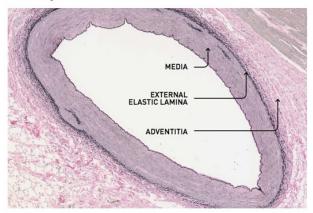




PROBLEM

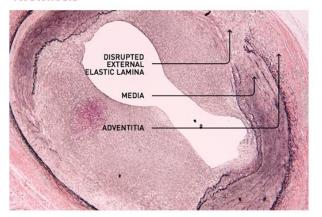
Arterial Damage Leads to Restenosis

Healthy Arterial Structures



The external elastic lamina (EEL) is the border between the media and the adventitia.

Restenosis



Disruption to external elastic lamina and adventitia leads to an aggressive healing response, commonly referred to as restenosis.

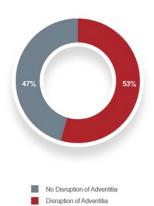


LUMIVASCULAR

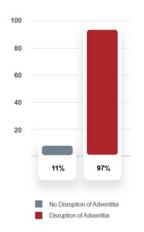
Minimizing Damage to Adventitia

Traditional Atherectomy¹

Adventitial Disruption

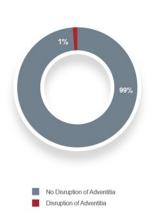


Traditional Atherectomy¹ Restenosis at One Year



VISION Trial (Pantheris)

Tissue Analysis²





 Histopathological Evidence of Adventitial or Medial Injury is a Strong Predictor of Restenosis During Directional Atherectomy for Peripheral Artery Disease. J Endovasc Ther. 2015 Oct;22/5l;712-5. doi: 10.1177/1526602815597683. Epub 2015 Jul 24
 FIH Data on file at Avinger, Inc.



PANTHERIS

Image-Guided Atherectomy for Precision and Safety

SEE



DIRECT

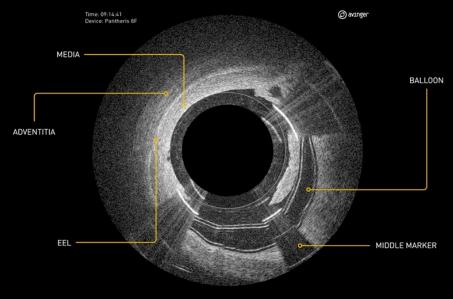


REMOVE





PANTHERIS Visualization. Precision. Safety.

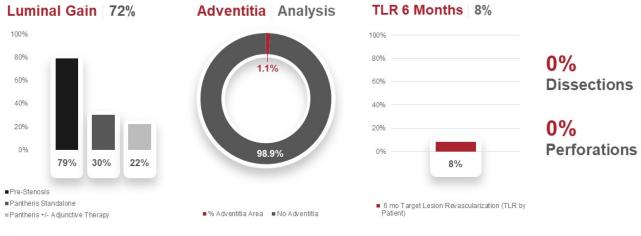


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VISION IDE

Pantheris Clinical Data

130 PATIENTS | 20 SITES | 164 LESIONS | 7.3 ± 4.1cm MEAN LESION LENGTH | SFA-POPLITEAL LESION LOCATION

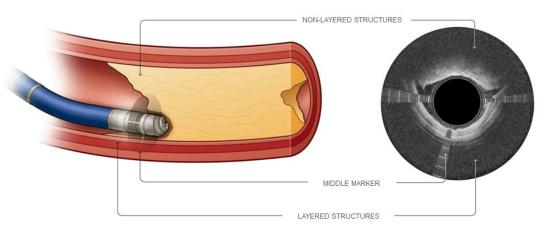


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OCELOT

Lumivascular CTO Crossing



Fluoroscopy
No visualization of arterial structures



CTO = Chronic Total Occlusions

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OVERVIEW | 2020

2019 - 2021

Strategic Growth Drivers



Drive Utilization

Drive utilization at current sites and open new sites in current markets



Expand Markets

Expand sales team, launch new sites in underserved areas





Launch New Devices

Devices in development to expand market and revenue per site



Advance Clinical Data

Produce compelling clinical outcomes data to support utilization and value



PANTHERIS

New and Improved Products Drive Revenue Growth









Multiple improvements for performance and reliability

- · Enhanced Petal Cutter Design
- · Redesigned Inflation System with Single Balloon
- · Stiffer Catheter Shaft
- Reinforced Vented Nosecone in Standard and XL Lengths
- · Markers on Shaft for Longitudinal Positioning



FDA 510(K) CLEARANCE APRIL 2019

Pantheris SV (Small Vessel)



FULL COMMERCIAL LAUNCH SEPTEMBER 2019

Product shipped to 25 accounts by end of Q3

- Highly positive feedback from limited launch program 60 cases in 13 clinical sites
- Anticipate addressable market of ~\$180M
- Longer length and lower profile to enable treatment of smaller vessels, including those below-the-knee (BTK), estimated to account for 1/3 of atherectomy procedures
- Differentiated solution for complex disease in high need population

Pre-treatment



Post-treatment



Pantheris SV Case Study



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Product Pipeline and Milestones

PRODUCT	ESTIMATED MARKET OPPORTUNITY	ANTICIPATED U.S. PRODUCT LAUNCH	COMMENTARY
Pantheris SV	\$180M	Launched Q3 2019	Longer length, lower profile for small vessels, including BTK (below-the-knee)
Ocelaris PAD	\$90M	2H 2020	Next generation Peripheral CTO- crosser
Lightbox L300	\$100M	1H 2021	Miniaturized solid state console with full integration







Clinical Data Programs

SCAN Clinical Study - OCT vs. IVUS in Peripheral Arteries

- Post-market study comparing Pantheris OCT imaging to intravascular ultrasound (IVUS) as a diagnostic imaging tool – supports incremental reimbursement initiative
- Initial data release Q4 2018; Publication anticipated Q1 2020

INSIGHT IDE Clinical Trial – In-Stent Restenosis (ISR)

- IDE trial to support 510(k) submission for ISR label expansion; 16 US/OUS Sites
- Interim results from first 36 patients presented at CVC clinical conference in Q3 2019
 - 72% average luminal gain following treatment with Pantheris alone; >90% reduction with adjunctive therapy
 - 95% freedom from target lesion revascularization (TLR) at 6 months
- Enrollment anticipated to be completed 1H 2020

IMAGE-BTK Clinical Study - Pantheris SV

- · Post-market study evaluating safety and efficacy in real-world clinical setting
- · Multi-center study with evaluation at 30 days, 6 months and 1-year post-procedure
- · Enrollment initiated January 2020





U.S. and International Sales Regions

	U.S.	EUROPE	ASIA PACIFIC	a de la constante de la consta			
	27 Sales Professionals • VP: 1	International Sales VP: 1 Direct Sales in Germany	Sales through distributors in Australia and Hong Kong				7
	Regional Sales Directors: 3Territory Sales Managers: 13Clinical Specialists: 10	Sales through distributors in Switzerland, UAE, and Turkey	Large market opportunity in China and Japan; Partner discussions	₹.	U.S. Nationa	l Agreements	
Regulatory	Approved	Approved	Approved (Australia & Hong Kong)		Dep Vete	erans Affairs	
Status	Approved	Approved	Regulatory approval required (China & Japan)	HEA	**************************************	ASCENSIO	N

As of September 30, 2019



COMMERCIAL EXPANSION AND ROBUST PIPELINE

Recent and Key Upcoming Milestones

2019		2020	
	<u> </u>	0	0
Q3	Q4	Q1	Q2
Commercial roll-out/national aunch of Pantheris SV	CE Marking approval of Ocelaris next gen CTO- crosser	Initiation of enrollment in IMAGE-BTK clinical study (Pantheris SV)	U.S. 510(k) filling for Ocelaris next gen CTO- crosser
nterim INSIGHT study results – treatment of in- stent restenosis (ISR)	Ocelaris successful first cases in Europe	Completion of enrollment in INSIGHT clinical study (ISR)	Release of INSIGHT (ISR) 30-day data
Asia Pacific expansion – launches in Australia and Hong Kong	Expansion of commercial team to 30 sales and marketing professionals	Continued expansion of commercial organization	Expansion into new international markets

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Capitalization Table and Selected Financials

10,342,179 2,237,250 150,847
150,847
2,753,999
948,984
16,433,259



Series A Preferred Stock resulted from the conversion of debt held by CRG Partners. Series A is not convertible at this time, due to amendment completed in Oct 2018.

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Opportunity Summary





Proprietary solutions for large and growing PAD market, with potential expansion to Coronary Artery Disease (CAD) market



Lumivascular platform is the only technology that combines real-time intravascular imaging with highly effective therapy for the treatment of PAD



Next Generation Pantheris driving positive sales results and growing recurring revenue base



Pantheris SV national launch expected to accelerate revenue growth in 2H 2019

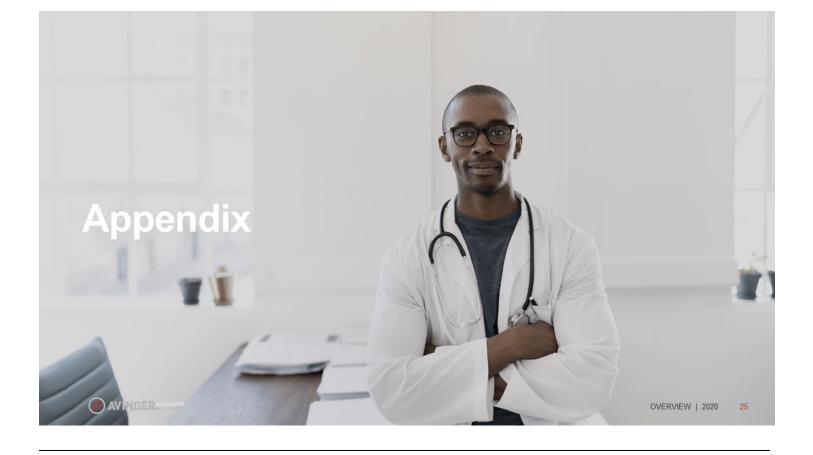


Robust product development and clinical data pipeline to position the company for future growth



Efficient, lean operating structure focused on driving recurring revenue and scale





Management Team

Jeff Soinski - Chief Executive Officer

Jeff Soinski has served as our President, Chief Executive Officer and a member of our Board of Directors since December 2014. From its formation in September 2009 until the acquisition of its Unisyn business by GE Healthcare in May 2013, Mr. Soinski served as Chief Executive Officer of Medical Imaging Holdings and its primary operating company Unisyn Medical Technologies, a national provider of technology-enabled products and services to the medical imaging industry. Mr. Soinski served periodically as a Special Venture Partner from July 2008 to June 2013 and as a Special Investment Partner since October 2016 for Galen Partners, a leading healthcare-focused private equity firm. From 2001 until its acquisition by C.R. Bard in 2008, Mr. Soinski was President and CEO of Specialized Health Products International, a publicly-traded manufacturer and marketer of proprietary safety medical products. Earlier in his career, Mr. Soinski was President and CEO of ViroTex Corporation, a venture-backed pharmaceutical drug delivery company he sold to Atrix Laboratories in 1998.

Mr. Soinski served on the board of directors of Merriman Holdings, parent of Merriman Capital, a San Francisco-based investment banking and brokerage firm, from 2008 until March 2016. He holds a B.A. degree from Dartmouth College.

Mark Weinswig - Chief Financial Officer

Mr. Weinswig joined Avinger in June 2018 and brings extensive strategic and operational financial experience, including almost 20 years in financial leadership positions in private and publicly-traded technology companies. Mr. Weinswig previously served as the CFO of Emcore, One Workplace, and Aqua Metals. Earlier in his career, he held senior financial positions at Coherent and Oclaro. Mr. Weinswig began his career in public accounting at PricewaterhouseCoopers and worked at Morgan Stanley as an Equity Research Analyst.

He has held both Certified Public Accountant (CPA) and Chartered Financial Analyst (CFA) designations, and received an MBA from Santa Clara University and a BS in Accounting from Indiana University.



Management Team

Himanshu Patel - Chief Technology Officer

Himanshu Patel has served as Chief Technology Officer of Avinger since co-founding the Company in 2007. Mr. Patel brings over 25 years of design experience developing medical devices, primarily for cardiovascular and peripheral artery disease treatment. He has extensive experience leading R&D and manufacturing operations across several companies and has served as a named inventor in more than 25 medical device patents. Mr. Patel spearheaded engineering efforts of the current platform of image-guided ("Lumivascular") interventional devices at Avinger and has played a central role in the development of products that have generated over \$1 billion in shareholder value over the course of his career. Prior to Avinger, Mr. Patel led R&D activities as the Director of Advanced Technologies at FoxHollow, where he led the engineering efforts of a \$180 million revenue product. His other experience includes medical device design and development at EndoTex Interventional Systems and improving the manufacturing processes of medical devices at General Surgical Innovations, amongst others. Mr. Patel has a proven track record of developing products that exceed customer expectations, with a focus on cost containment, speed to market, and manufacturability.

Mr. Patel holds a B.S. in Mechanical Engineering from M.S. University of Baroda, India, and an M.S. in Mechanical Engineering from the University of Florida.

Jaafer Golzar, MD, FACC, FSCAI - Chief Medical Officer

Jaafer Golzar, MD, joined Avinger in July 2018 and serves as our Chief Medical Officer. Dr. Golzar is a practicing interventional cardiologist with Advocate Medical Group and a key opinion leader in the treatment of peripheral artery disease. He is the Director of Limb Salvage and Endovascular Intervention at Advocate Trinity Hospital in Chicago. Dr. Golzar is also a leading educator on interventional techniques and technologies and is the founder of the Chicago Endovascular Conference (CVC), an international-scale annual conference designed to address the educational needs of physicians treating patients with peripheral arterial and venous diseases. Prior to joining Avinger, Dr. Golzar was also Medical Director - Interventional Vascular for BTG International. He has participated in multiple clinical research trials, including studies of PAD treatment with atherectomy, drug-eluting balloons and stents and has authored numerous publications in peer-reviewed journals. As a recognized leader in the endovascular community, Dr. Golzar has received multiple accolades including the prestigious Pioneers in Performance - North America Award in 2014. He is a Fellow of the American College of Cardiology and of the Society for Cardiovascular Angiography and Interventions

Dr. Golzar has a B.S. from the University of Arkansas at Little Rock and an M.D. degree from the University of Arkansas College of Medicine.



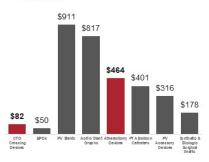
Attractive and Growing Market

U.S. PV Device Market (\$ IN BILLIONS)



U.S. PV Device Market is expected to be \$3.6 billion in 2018 and expected to grow at a rate of 2.3% until 2023

2016 U.S. Market by Device Type (\$ IN MILLIONS)



Atherectomy procedures and CTO procedures are expected to grow at 11.4% and 7.7% through 2023

2016 U.S. Market Size for Endovascular Treatment of Pad

TREATMENT	PROCEDURES	MARKET SIZE		
Amputations ⁽¹⁾	200,000	-		
Bypass ⁽²⁾	160,000	-		
Surgical Procedures	360,000	13		
Stents(3)	314,000	\$523M		
Angioplasty(3)	560,000	\$240M		
Atherectomy	149,000	\$464M		
CTOs	155,000	\$82M		
Endovascular Procedures ⁽⁴⁾	620,000	\$1,309M		

Total atherectomy and CTO market size in 2016 was \$546 million

Source: Unless otherwise noted, data is from Millennium Research Group, December 2014
1) The Sage Group, 2014
2) Journal of Vascular Surgery, 2009
3) For PAD, includes only lilac, Femoropopliteal and Infrapopliteal indications
4) Total endovascular procedures are less than sum of the individual categories due to use of same technologies in same procedure



MARKET

Competitive Positioning

		COMPANY	PRODUCT	MARKET SHARE	APPROACH	LUMINAL GAIN	AVOIDS ADVENTITIA DISRUPTION	REMOVAL OF PLAQUE	RADIATION & CONTRAST SPARING	IMAGING & VESSEL MEASUREMENT
NAME OF STREET		Avinger	Pantheris	<5%	Directional Atherectomy	•				
		Covidien / Medtronic	SilverHawk	29%	Directional Atherectomy	•				
		CSI	Diamondbac k 360	35%	Orbital Atherectomy	4	1			
	-0	Philips (Spectranetics)	Turbo Elite	19%	Laser Ablation	4	•			
		Boston Scientific	Jetstream / Rotablator	11%(1)	Rotational Atherectomy		4	4		
	•	Philips (Volcano)	Phoenix	<5%	Rotational Atherectomy	4	4	4		



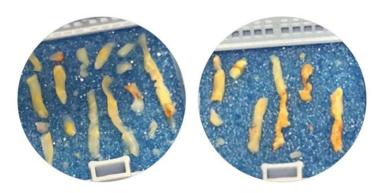
Source: Estimated Market Share 12 mos. ended Sept 2017 (based on DRG and other sources)(1)Boston Scientific market share not differentiated between Jetstream and Rotabilator

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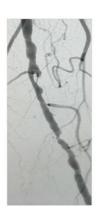
CASE STUDY

Pantheris

Plaque removed from artery during Pantheris procedure



Pre Pantheris



Post Pantheris





CONNECT II

Ocelot Clinical Data

100 PATIENTS | 14 SITES | 166mm MEAN LESION LENGTH | SFA & POPLITEAL LESION LOCATION

Crossing Success & Freedom from MAEs

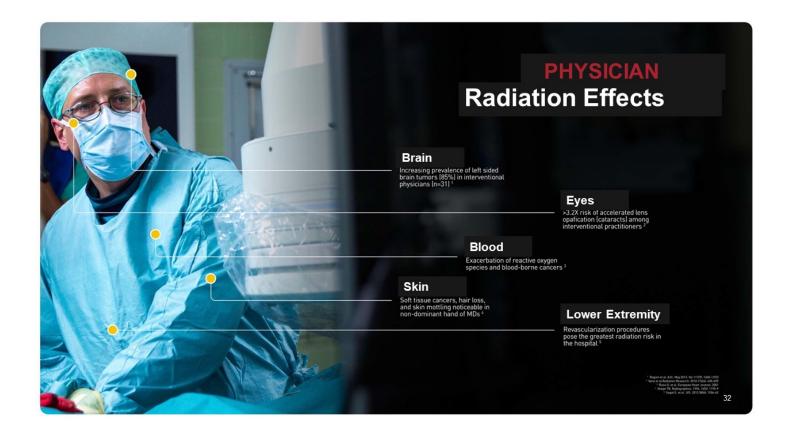


Luminal Crossing N=97 Patients





Avinger's CONNECT $\,\,$ II is an FDA approved prospective, non-randomized, global clinical study that evaluated the safety and efficacy of the Ocelot System.

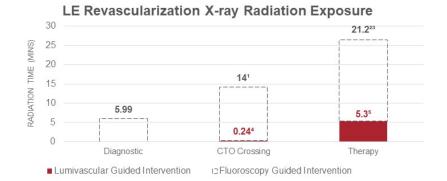


X-RAY RADIATION FOR 15-25CM SFA CTOS

Radiation Free Technology

29 minutes

of radiation eliminated per case when using Lumivascular



¹⁾ Stanilose, Cezar S., et al. "Endoluminal treatment of peripheral chronic total occlusions using the Crosser® recanalization catheter." Journal of Invasive Cardiology 23.9 (2011): 359 2) Laird, John R., et al. "Excimer laser with adjunctive balloon angioplasty and heparin-coated self-expanding stent grafts for the treatment of femoropopliteal artery in-stent restenosis." Catheterization and Cardiovascular herventions 80.5 (2012): 822-859 3) Roberts, David, et al. "Effective endovascular treatment of calcified femoropopliteal disease with directional atherectomy and distal embolic protection: final results of the DEFINITIVE Ca++ trial." Catheterization and Cardiovascular interventions 84.2 (2014): 236-244 4) Davis, T. Crossing Chronic Total Occlusions using zero fluoroscopy. Vascular Disease Management 5) Brodmann, M. Lumivascular Case Series, LINC 2016



OVERVIEW | 2020

CE MARKING DECEMBER 2019

Ocelaris Next Generation CTO Crossing

*

- Enhanced imaging and CTO crossing capability in challenging lesions
 - Up to 1000 rpm rotation speed generates Pantheris-like imaging
 - Proprietary tip design and faster rotation improves crossing capability
- · Variable angle tip deflection delivers precise maneuverability
- · Low profile design allows for 5F sheath compatibility
- U.S. 510(k) filing anticipated 1H 2020
- · Exciting opportunity to expand platform to Coronary CTO
 - Unmet clinical need and driver of highly invasive bypass surgery



Limited commercial availability in Europe. Not available for sale in United States.



New L300 Platform



Radically reduced footprint and lower cost

- · Multiple system installation options
 - Lab integration, cart-based, portable
- · Variable high speed catheter rotation capability
 - Enhanced OCT imaging
 - Optimal device effectiveness
- · Reimagined software system
 - Emphasis on speed and simplicity
 - Vessel measurement
 - Automatic catheter identification

Currently in development at Avinger. Not available for sale.

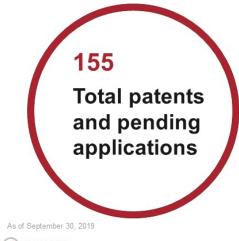




PATENT OVERVIEW

Robust Intellectual Property Portfolio

Avinger has an extensive IP portfolio covering key aspects of the design, manufacturing and therapeutic use of OCT imaging catheters, atherectomy devices and imaging console



57 U.S. patents and patent applications

29 allowed & issued U.S. patents

27 pending utility applications

1 PCT application

98 Ex-U.S. patents and patent applications

54 allowed & issued ex-U.S. patents

44 pending ex-U.S. applications

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