

## **Official Online Health Chat Transcript**

*“Aortic Valve And Aorta Surgery”*

Dr. Eric Roselli's Exclusive Online Chat  
With the Patients And Caregivers Of [www.HeartValveBlog.com](http://www.HeartValveBlog.com)



**Cleveland Clinic**

### Cleveland Clinic Online Health Chats



**Exclusive Interactive Chat:**  
“Aortic Valve & Aorta Surgery”  
Hosted By Dr. Eric Roselli, M.D.

Date: Wednesday, July 7, 2010  
Time: 2pm - 3pm (EST)

*Brought to you by:*



**THE PATIENT'S GUIDE TO  
Heart Valve Surgery**

A SPECIAL BOOK FOR PATIENTS & CAREGIVERS

[www.HeartValveBook.com](http://www.HeartValveBook.com)

## I. Introduction

On Wednesday, July, 7, 2010, Adam Pick, the author of *The Patient's Guide To Heart Valve Surgery*, invited cardiac surgeon, Dr. Eric Roselli, M.D. - one of the leading heart valve surgeons at the Cleveland Clinic - to participate in an exclusive, Internet chat with the patient and caregiver community located at [www.HeartValveBlog.com](http://www.HeartValveBlog.com).

Below you will find the official written transcript of this unique online health chat among Dr. Roselli and the patients who attended the live Internet chat.

## II. About Dr. Eric Roselli



Eric Roselli, MD, is a Staff Surgeon in the Cleveland Clinic Department of Thoracic and Cardiovascular Surgery. He is certified by the American Board of Surgery and the American Board of Thoracic Surgery. Dr. Roselli's specialty interests include adult cardiac surgery, thoracic aortic surgery, endovascular approaches to cardiothoracic diseases, minimally invasive valve repair and replacement, high-risk valve surgery, endovascular stent and prosthetic valve research and cardiovascular imaging.

Dr. Roselli did his undergraduate work at the University of Michigan where he received the David J. Hallisey Memorial Academic Scholarship. He received his medical degree from Loyola University Chicago Stritch School of Medicine, graduating in 1997 "with distinction." He completed a residency in surgery at Cleveland Clinic followed by a second residency in thoracic and cardiovascular surgery at Cleveland Clinic. He was appointed to Cleveland Clinic in 2005 in the Department of Thoracic and Cardiovascular Surgery.

Dr. Roselli has authored or co-authored book chapters and articles in peer-reviewed journals on thoracoabdominal aortic aneurysms, endovascular aortic surgery, reoperative cardiac surgery, aortic valve disease, cardiac CT, atrial fibrillation and heart and lung transplantation.

Dr. Roselli is a Fellow of the American College of Surgeons, and a member of the Society of Thoracic Surgeons, the American College of Cardiology, the International Society of Endovascular Specialists, the International Society of Minimally Invasive Cardiac Surgery and the Society of Cardiovascular Computed Tomography.

To arrange an appointment or remote consult with Dr. Roselli, please call his office at (216) 444-0995. Or, to learn more please visit the link below:

[http://my.clevelandclinic.org/staff\\_directory/staff\\_display.aspx?doctorid=6515](http://my.clevelandclinic.org/staff_directory/staff_display.aspx?doctorid=6515)

### III. Chat Transcript

**Cleveland\_Clinic\_Host:** We will now begin our chat with Dr. Eric Roselli. Thank you for joining us, Dr. Roselli, and thank you to Adam Pick for facilitating this!

#### Topic 1 - Minimally invasive vs. Traditional incision Aortic Valve Surgery

**Gail\_B:** For aortic valve replacement, what is the best approach — minimally invasive (intercostal), semi-sternotomy, or full sternotomy and WHY? What are the risks and benefits of each surgical procedure?

**Dr\_Eric\_Roselli:** those are all good options. The decision about which is best is both patient and surgeon specific. I would suggest if you are interested in one of these types of procedures, that you see a surgeon that is familiar with all of these types of approaches.

**Sharon\_C:** I have been diagnosed (in March 2010) with a leaking aortic heart valve rate as a 4 out of 5. The cardiologist indicated I might not need surgery for 5 to 10 years. I have read about the doctor in New York who does the surgery by making an incision below the breast (less invasive). My valve will need to be replaced. Are there doctors in Cincinnati, Ohio who have experience doing this surgery? My option may be to go to the Cleveland Clinic, but I would prefer to do it locally. I am 69 years old.

**Dr\_Eric\_Roselli:** There are surgeons in many places including Cincinnati that do minimally invasive valve surgery. I would suggest that you choose a surgeon with a lot of experience doing these operations.

**Tim:** I need AVR and would prefer not to have my sternum split. But, I can't understand how a mini-sternotomy works. How is it possible that only part of the sternum is split?

**Dr\_Eric\_Roselli:** The incision is shaped like a T or a J or a hockey stick so that only part of the incision is divided.

**frankem:** Is there any possibility that a re-do aorta valve replacement can be done minimally invasive or does the scar tissue prevent this ? And which valve would you recommend for a 65 year old male, who is in good health ? Are there any new mechanical valves now being used that are considered superior to the older valves, like the St Judes valve ?

**Dr\_Eric\_Roselli:** Yes - re-do surgery can be done through a minimally invasive approach but the benefits of the minimally invasive approach may not outweigh the risks in a patient requiring redo operations.

## Topic 2 - Types of Aortic Valve Replacement

### *Types of Aortic Valve Replacement: Mechanical vs. Biological*

**Gianni\_R:** At age 59 I am advised that I need aortic valve replacement due to regurgitation coupled to aortic aneurysm needing attention. Dilemma is mechanical vs. tissue. I wish to avoid the warfarin associated with the mechanical option but would then need to replace tissue valve in 15 yrs?? Am hoping that we would have non invasive surgery by then?? Question: will the second operation be more onerous due to having had the first?? Any input welcome. Thank you. Gianni

**Dr\_Eric\_Roselli:** Gianni's question raises an important topic about valve choice - mechanical vs. tissue. For many years in Cleveland we have predominantly used tissue valves even in younger patients while in Europe most younger patients still get mechanical valves. The problem is that neither is an ideal option.

The risk associated with being on warfarin includes bleeding, or thromboembolism at a rate of 1 to 2% per year. Whereas, the biologic tissue valves eventually all wear out. For a 59 year old, the risk of needing another valve replacement in 12 years is about 25%. So, mechanical vs. tissue is a wash in patients of this age. The risk of a reoperation in centers where these are commonly performed is no higher than a risk of a first time operation as long as the patient is otherwise healthy.

Some people are enthusiastic about the development of transcatheter valves to "revalue" the degenerated biologic valves and so am I but the first valve has to be large enough so as not to cause stenosis when a second device is placed inside of it 10 - 20 years from now.

**Debbie:** Can you ask Dr. Roselli what valve type he would suggest for me? I'm 44 with severe aortic stenosis. The thought of being on Coumadin for life is not very attractive but I don't want another operation in 10 years.

**Dr\_Eric\_Roselli:** The risk of bleeding and thromboembolism from coumadin is 1 -2 % per year. The risk of reoperation in 12 years for a 44 year old is about 40%. The newer valves are theoretically better but we do not have long term data. It is unlikely that a biologic valve will last more than 20 years.

**Todd:** I am scheduled for surgery next month and would like to know what type of valve should be used for me. I am 60 yrs old and am very active and am against blood thinners will the Dr. give me a choice of valves? I am also having the surgery on my aorta valve at the Cleveland Clinic with Dr. Mihaljevic.

**Dr \_\_ Eric \_\_ Roselli:** Yes the doctor will give you a choice of valves.

**frankem:** Dr Roselli, I have a bicuspid aortic valve, which is leaking, and a dilated ascending aorta (5.4), including the root. I have been told both need surgery. From a CT scan it appears my aortic arch will not require surgery. I am 58 and an active downhill skier, biker and back county camper. I would like to avoid Coumadin if possible. My surgeon will install either a mechanical or tissue valve but recommends a mechanical valve due to the complexity of a future re operation to replace the tissue valve because of the aorta replacement. Is it possible my tissue valve might be replaced in the future without reconstructing the aorta again? Also, are their advancements on the horizon that might make the future surgery less complex?

**Dr \_\_ Eric \_\_ Roselli:** It is possible to re-replace a tissue valve without reconstructing the aorta. I would offer you a biologic valve and ascending aorta replacement through a minimally invasive incision given your activity level.

Transcatheter valves might make redo replacement less complex for patients in the future but it is important that the first valve is large enough to accommodate it. For now, the data is limited on this valve in valve techniques.

### ***Types of Aortic Valve Replacement: Ross Procedure***

**ZAFAR:** My son name Mobeen age 11 year, was operated last year for Sub aortic membrane and AV repair for moderate AR. After repair AR reduced to mild but in recent check again increased to moderate. Although cardiologist has put him on medicine(speromide and cardice), he says that your child will require AV replacement in next 2-3 years time. He also says that this child age size of AV is not available. Kindly advice best course of action for AV repair of our child

**Dr \_\_ Eric \_\_ Roselli:** This question and others making reference to the Ross Procedure brings up another important less common surgical option for patients with aortic valve disease. The biggest advantage for the Ross operation is that it provides the patient with a living valve which will grow with the patient as they age. So - if and when your son needs an operation, that may prove to be a good choice.

**Jeff:** What is Dr. Roselli's experience with the Ross Procedure? I've heard the procedure has fallen out of favor with many surgeons. I'm 45 and need AVR.

**Dr \_\_ Eric \_\_ Roselli:** Many Ross procedure questions - the Ross procedure has somewhat fallen out of favor because the results with the current bioprosthetic valves are so good. However, the Ross procedure is a living valve and so it provides good hemodynamics, a reduced risk of endocarditis, little thrombogenic potential, and most importantly it grows with children.

The data supporting the use of the Ross procedure is from several small studies and the results are variable. The problem with the Ross procedure is that you take single valve disease and create the potential for two valve disease.

The pooled mortality data suggests a risk of around 3 percent and the risk of reoperation on the aortic valve autograft is about 1 percent per year and the risk of reoperation on the pulmonic valve is about 1 percent per year. There is some debate as to whether patients with rheumatic valve or bicuspid valve disease may be at higher risk for reoperations later and most durability issues are apparent in the first decade after the surgery.

### ***Types of Aortic Valve Replacement: On-X Valve***

**Judy:** I am a 66yr old female, 5'2" who will at best be able to receive a 23mm aortic valve prosthesis, maybe only 21mm. I have moderately severe aortic stenosis, calcification at the sinotubular junction and an anomalous circumflex artery apparently rendering reoperation difficult. I really do not want to take Warfarin, particularly because of bleeding complications as I get older, fraile and will require various procedures. What is the progress of the OnX PROACT study? Is there a good chance that there may be a mechanical valve which requires no Warfarin? Regarding the ATS 3F valve, apparently I have calcification just where this valve would be sewn in. A surgeon advised me that he would find it difficult to sew this in on me and in any case the gradients are not any better than with an ordinary tissue valve. What is your opinion? I appreciate your help. Thanks

**Dr\_\_Eric\_Roselli:** We are currently actively enrolling patients in the PROACT study. This valve may allow patients to be anticoagulated with the combination of plavix and aspirin IF they are a person who responds well to aspirin and plavix.

With regards to the 3F valve, I do think that it may provide better hemodynamics than a stented valve but given that you are only 5'2" most of the currently available stented bioprostheses should not cause you any patient prosthesis mismatch at a size of 21 or 23 mm.

There are also other stentless valves available other than the 3f valve that you may be a candidate for. I would suggest you see a surgeon who has experience with all the various valves available so that he can make an educated decision in the operating room about what will fit you the best.

### ***Types of Aortic Valve Replacement: Trifecta Valve***

**adourian:** Would you please explain the anticipated pros and cons of the trifecta valve for AS and what role Cleveland Clinic is playing in the trials. Is there any European "track record" for intermediate term results with the valve?

**Dr\_\_Eric\_Roselli:** There were several questions about the trifecta valve. First of all, there is no evidence that the trifecta valve or any biologic prosthetic valve is clearly

better than the competition. We do have experience as a trial site for the trifecta valve in Cleveland and I am an investigator. It seems to be a fine valve.

The data from Europe is reasonable. It is this preliminary data that has allowed them to proceed with the FDA trial. I would like to caution all of the participants that many of the things you read online are generated by the companies who produce the valves and are therefore "paid advertisements."

### Topic 3 - Aortic Aneurysm or Dilation and Aortic Valve

**Gail\_B:** I have severe aortic insufficiency, a grade IV diastolic murmur and dilated LA and LV (LVIDd = 6.2cm) as a result of blunt force trauma (50' fall). At the moment my body is compensating well (e.g., I rode 79 miles on a bike last weekend and did a 9 mile hike Saturday, and a 5 mile hike Sunday with 3300' elevation gain). Given my current physical capabilities the decision was made to hold off on surgery and I was released to resume all physical activities until another echocardiogram is done in 6 months to determine whether further enlargement has occurred. Is it possible for a person to stabilize for extended lengths of time in compensatory mode, or is aortic valve replacement likely to be in my very near future despite my fitness?

**Dr\_Eric\_Roselli:** Congratulations on recovering from such a serious accident. The detailed description of your echo findings would require closer review but given that you are asymptomatic if your left ventricle is not severely dilated you do not require surgery at this time.

Yes - it is possible for a person to compensate for severe Aortic Insufficiency (AI) for a long time. Exactly how long is difficult to predict. Medical therapy with vasodilators may allow you to tolerate AI for a longer period of time.

**Jim\_N:** On April 7, 2009 I had successful aortic valve replacement and an ascending aortic thing replaced due to a slight aneurysm and have been very active ever since with NO issues, save one. Dr Roselli was my surgeon, Thank God. I have a balance problem I did not have prior to surgery, where I find myself having to catch my balance, on occasion, when I get into an awkward bending position. Have not fallen yet, but it does concern me. I will be 70 next week acting like a 40 year old, and do not want to break a hip. Is this related to the surgery or something else. Thanks Doc, Great Job

**Dr\_Eric\_Roselli:** These symptoms are probably something else than related to the surgery. You may need further evaluation by someone who specializes in dizziness and syncope. You can call Dr. Roselli's office if you want to be seen here for further evaluation.

**Jim\_K:** Is a dilated ascending aorta (4.5 cm) a contraindication for AVR via minimally invasive techniques?

**Dr \_Eric \_Roselli:** No. Not at all. Other surgeons and I who perform a lot of minimally invasive aortic valve surgery will also perform more complicated operations involving the aortic root, the ascending aorta, the aortic arch and the mitral or tricuspid valve procedures all at the same time using minimally invasive techniques.

**Neda\_J:** I am a 44 year old female. I have a BAV (severe stenosis/moderate regurgitation) with aneurism of ascending aorta (4.5cm). Have seen a surgeon who has recommended Bentall Procedure – conduit – mechanical valve/dacron. He will be replacing the aorta up to the arch (the arch is fine). Just not sure whether he should have the dacron all the way up to the arch (which means as far as I understand it, cannulation through the subclavical and clamping) or have the dacron almost all the way up with a sleeve wrapped around what is left of the native aorta for extra support (apparently this does not require clamping). My question is, what are the risks of the 2 different procedures, which is the safest and which provides better long term results? Thanking you in advance.

**Dr \_Eric \_Roselli:** The specific detail of how the surgeon plans to deal with your aorta is something that you need to discuss with him in detail. Using a wrap to repair the aorta has not been supported by a lot of data. In experienced centers and healthy patients the use of a brief period of circulatory arrest to perform aortic surgery is very safe.

My approach to young patients with bicuspid aortic valves and associated aneurysmal disease, is to resect all of the affected aorta during a single operation with the hopes that this gives us the most durable long term result.

**Marty\_M :** I am an active 53 year old male Grand Canyon riverguide who was diagnosed with an ascending aortic aneurysm 8 1/2 years ago. I had a congenital bicuspid aortic valve which I didn't know about until I was 44 years old. I had a porcine valve and root along with a double bypass. Both of my parents have heart disease as well. Two years ago I was hospitalized with endocarditis and was told that it may do damage to my valve. Since the endocarditis, I have monthly IVIG treatments and also am on a bipap machine which was prescribed due to an A-fib problem a few months ago. I am in good physical condition, work out 4 to 5 days a week and am not overweight. My echo in Jan. 2010 showed a slight leakage which has now progressed to a moderate leakage. I was told by my cardiologist that I will most likely have to have a redo replacement within the next year or so, although my last echo, in June showed no change from my previous echo 6 months earlier. The surgeon referred to me by my cardiologist, thought that a valve within my valve would be the preferred procedure rather than replacing the root and valve, which he said would be a much more significant surgery. They would also do an ablation procedure and hopefully not another bypass... (My current porcine valve is 27). I want to do another porcine valve because I do not want to be on Coumadin due to my lifestyle. My question is: Is a valve within a valve a common and successfully performed procedure? I was also hoping I could get away with a less invasive surgery, but was told I will have my chest split open again. I will get another opinion soon, but would appreciate your input.



**Dr. Eric Roselli:** Currently valve in valve is not an option in the US. Most patients with prosthetic valve endocarditis are not successfully treated with medical therapy alone so you are lucky that you have cleared your infection with antibiotics alone and not another operation already.

Given that you appear to be a young healthy person, we would probably opt to replace your root during open heart surgery with either a porcine root or human cadaver aortic root (homograft). But a more specific discussion about what therapy to recommend would require closer evaluation of your records and imaging studies.

**Tanya:** Hi Adam, I've been a silent follower of your website (thank you for your invaluable info!) but just recently had an appointment with my cardiologist that has left me feeling confused. I am 33 yrs. old and was diagnosed with a bicuspid aortic valve and ascending aortic dilation a few years ago. The dilation of my ascending aorta first was caught at 3.75 cm, then it went to 3.9 cm, then 4.1 cm and somehow is now back to 3.75 cm (though I was told it would only get worse and not better). I have been told by one of the cardiologists that I am not the "average-size adult" - I'm 5'1" and weigh 113 lbs. One cardiologist told me that I should probably have the surgery soon because of my physical size (that I should not wait to have the same measurements like the "average-size adult") but another said I could wait until the dilation measured 4.5-5 cm. Which one would be correct? Also, I'm planning on getting married soon. My fiancé just recently went with me for another follow-up with the cardiologist who said that it would be safe for me to get pregnant and she did not have any concerns (she told me I could follow-up with her in a year), but the OBGYN felt that it would be better to have the surgery first because of the amount of pressure on the heart (i.e. fluid around the heart) that pregnancy causes. So now, which MD is correct??? I would appreciate it if you could pass these questions along to Dr. Roselli if possible. Thank you.

**Dr. Eric Roselli:** First of all it is unlikely that your aorta shrunk. There is a margin of error of about 2 mm when using ct scan or other imaging techniques to evaluated aortic dilation. One third of patients with bicuspid valves have aneurysms of the proximal aorta which tend to be at risk for rupture at a smaller size than aortic aneurysms due to other causes.

The current recommendation for operating on an ascending aneurysm in patients with a bicuspid valve is 5 cm in isolation or 4.5 cm if the patient is undergoing other cardiac surgery, usually the valve. However, these rules are very general and in Cleveland we use another formula to help correlate the patient's aorta size to their height (maximum aortic area: height in cm ratio greater than 10).

Given your height of 155 cm, I would recommend that you undergo surgery on your ascending aorta when it reaches a diameter of 4.5cm . It is important that the images of your aorta are evaluated using three dimensional techniques to more accurately assess the size of your ascending aorta. If it really is less than 4 cm, then I don't think you should be concerned about getting pregnant as long as your valve is functioning well.



**Toni:** Dear Dr Roselli, What a great opportunity! I am 57 years old and have a bicuspid valve with moderate stenosis, a 5.3 cm ascending aorta and a 4cm arch. All will have to be replaced fairly soon. What are the complications specifically arising from arch surgery? Would you know the comparative rates of complications arising from the (additional) arch surgery versus 'straight' valve/ascending aorta surgery? Many thanks for your advice.

**Dr Eric Roselli:** The complications related to this surgery are most closely correlated with your comorbidities and the experience of the surgical team. If you are healthy, I would quote you a 97% freedom from death, stroke or heart attack.

## Topic 4 - After Valve Surgery Care And Concerns

**Gene\_P:** I had open chest surgery in 2008 to repair an ascending aortic aneurysm with a valve sparing procedure on my BAV. The first follow up echo showed a mild leak at the valve. The second follow up just recently, some 17 months post surgery revealed a moderate leak. Should I expect the valve to progressively worsen fairly rapidly, or is it possible that a "leveling off" might occur, giving me some years before a second surgery to replace the valve would be necessary?

**Dr Eric Roselli:** The world wide experience with aortic valve sparing root replacement in patients with a bicuspid aortic valve is still small. There is some evidence to suggest worse results with this operation with a bicuspid valve and other evidence that suggest no difference at all. Although some of the data suggests that patients undergoing this surgery for a bicuspid aortic valve may develop moderate aortic insufficiency (AI) there seems to be no difference in the need for late re-operation. I think it is possible that a stabilization of your AI may occur. You need to be followed on a regular basis with echocardiography. Sorry I cannot provide you with a better answer - we are still learning.

**Hasse\_B:** Hi, Had a successful aortic valve operation due to severe aortic stenosis, on march 25 this year in Uppsala Sweden. Following 20 days I suffered from tight substernal pressure every time I swallowed food or liquid, and couldn't lay down for more than 2 hours at a time. I was very tired and had to sit down for a while after just walked up a small stairs. Finally I had 155 rest heart rate and blood pressure 90/60. My local doctor then sent me back to hospital, where they discovered liquid inside of my pericardium. They successfully sucked out 1.5 liter of blood, and all my bad feelings disappeared at once. My question is if this is a common situation after a aortic valve operation, and if it's hard to make the diagnose?

**Dr Eric Roselli:** The diagnosis of pericardial effusion is best made by history and physical exam and confirmed by echocardiography. It is not common but is a known complication of any heart surgery. Glad to hear you are doing well.

**bkctennis:** Hi, I had open heart surgery on Oct 9th, 2009. Myocardial Ischemia Anomalous coronary arterial anatomy. I am having problems now with feelings of

pressure and my heart being squished. We did a nuclear stress test and it was normal with no blockages, but the feeling is increasing and now have pain under left rib. Could this be related to the scar? I do have a 4 inch keloid on the lower part of the scar. Any suggestions I would really appreciate .

**Dr \_\_Eric\_\_Roselli:** I am not sure what type of heart surgery you had - if your surgery was related to the myocardial ischemia or another cause. If you continue to have pain, you should see your cardiologist.

You did mention a keloid and others have inquired about keloids as well. This is usually a benign condition but keloids scars can be painful in some patients. The specialists who have the most experience dealing with this type of problem are plastic surgeons and there are some new therapies available to treat this problem. I would suggest if you are concerned about the healing of your wound, that you arrange with a follow up with your cardiothoracic surgeon and if they determine it is the keloid causing your trouble, they can refer you to a plastic surgeon.

**Patricia:** I have a question but it may not be of general interest. I am scheduled for Aortic Valve replacement surgery at Cleveland Clinic with Dr. Mihaljevic on July 16. My home is west of Denver at 7300 feet in elevation. Will this be an added complication when I return home after my surgery?

**Dr \_\_Eric\_\_Roselli:** No - your body is already acclimated to the high altitude.

**Adrian:** 2. I am a 52 yr. old healthy male who had aortic valve/aortic root replacement. What percentage of healthy people having this type of operation would be expected to need a permanent pacemaker installed 1.5 weeks afterwards to prevent heart block? (Why?) Could a free-floating suture needle left behind in the pericardium (next to the aorta) after this type of operation possibly interrupt the normal pacemaking abilities of the heart and of the heart and precipitate the need for a pacemaker? Thanks.

**Dr \_\_Eric\_\_Roselli:** About 5 - 10% of patients need a permanent pacemaker post operatively because of the conduction system (i.e. electrical wiring of the heart) runs between the aortic and mitral valves. I don't think the needle should have any affect on the conduction system.

**Shannon:** How will having AVR impact my ability to have children? I have yet to have kids but want to. Is it possible to have kids after the surgery?

**Dr \_\_Eric\_\_Roselli:** Yes. But we usually recommend a bioprosthetic valve for women of child bearing years interested in having children.

**Kathy:** I had open chest surgery in 2008 to repair an ascending 9. I was 63 years old when I had my aortic valve replaced (with pig valve) at Cleveland Clinic last December. Was at .2 when replaced. Since operation can hear within my body my heart beating whenever it's quiet. Why?

**Dr\_Eric\_Roselli:** biologic valves are typically much quieter than mechanical valves. Your body should get used to your new valve and eventually you will not notice the sounds.

**Mary:** Dr. Roselli, I had a repair of the aortic valve in 2008 at the Cleveland Clinic and also a repair of a 5.3 cm aneurysm in the ascending aorta. I am physically active and I work out regularly in the gym. I cannot find a doctor where I live, that can tell me how high I should get my heart rate. For my age (57) the gym equipment recommends 130. My heart rate fluctuates from 106 to 122. I would like to know if 130 is too high or if that is just right? Also, is there going to be a new procedure for aortic valve surgery in the near future?

**Dr\_Eric\_Roselli:** A heart rate of 130 should be fine. The aerobic activity is good for you. If you have not had an imaging study of your aorta since your surgery, I would recommend that you do so.

**Mary:** I am 69 years old – female, and I had an aortic valve replacement and one by-pass surgery on April 28, 2010. I am generally doing well; however, I have bothersome neuralgia in my chest. As clothes lightly rub my incision area I have pain. Is there anything I can do? Also, when can I begin to use Mederma on my incision? Thank you!

**Dr\_Eric\_Roselli:** The neuralgia usually get better with time. You can put a topical anesthetic like lidocaine patches on the incision to help with the discomfort. I am not familiar with contraindications with use of mederma - I would suggest you ask a dermatologist or plastic surgeon.

## Topic 5 - After Valve Surgery care and concerns: Medications (Coumadin)

**Don:** Can the drug plavix be used in place of coumadin? Thanks!

**Dr\_Eric\_Roselli:** Not currently but one type of valve has a trial ongoing comparing aspirin and plavix vs. coumadin for anticoagulation after mechanical valve replacement.

**mohamed:** hi doctor I was diagnosed with moderate aortic regurgitation and the diastolic function and ejection fraction is normal. I have : 1- painful pvcs 2- strong pulses always feel it in my body abdominal area shaking 3- numbness and hand shaking 4- head pain ..my doctor said nothing to wary about and surgery not needed . question 1- are these symptoms related to moderate AR ? IF THE SURGERY DECIDED what is the right valve to chose mechanical or tissue ? if I choose mechanical and forget to take coumadin for one day is it dangerous ? the pvcs will go after the operation....mohamed 34 year old ?

**Dr\_Eric\_Roselli:** Most of the symptoms that you are describing are non-specific and probably not related to moderate AR. With regards to valve choice - see the previous discussion. If anyone has a mechanical valve, do not forget to take your coumadin.

## Topic 6 - Aortic Valve Repair

**Maria\_W:** Are there any circumstances under which aortic valve repair is possible?

**Dr\_Eric\_Roselli:** Many questions have been asked with regards to aortic valve repair. Surgeons who have a lot of experience with valve surgery will choose valve repair over replacement for patients whose main problem is a leaking aortic valve. This includes patients with aortic root aneurysms and bicuspid aortic valves. Here in Cleveland when patients have a leaking aortic valve or aortic insufficiency (AI) we primarily repair them.

Having said that, most patients still undergo aortic valve replacement because most people have aortic valve stenosis which in most cases cannot be repaired in adults.

**AlanJ:** I am a 55 year old male patient just diagnosed with a tear in the aortic valve after a TEE exam. My cardiologist told me that aortic valves are normally not repaired but just replaced. What questions can I ask my cardiologist to determine if in my case that repair may be feasible? Thank You.

**Dr\_Eric\_Roselli:** The decisions about repair vs. replacement of the aortic valve is made by the surgeons performing the procedures. If you cardiologist thinks that you need an operation, I would suggest you talk to a surgeon who can do both repairs and replacements.

If your cardiologist would like for you to be evaluated here, he can contact my office at 216-444-0995 to arrange for a review of your records.

**BOBBIE:** I had my aortic valve repaired but, was told that in repairing I am now experiencing some stenosis. How long typically does a repair to a valve last? Does weight factor into the length of time that I have before needing the next surgery?

**Dr\_Eric\_Roselli:** It depends on the reasons for repair and what the valve looked like before the repair. I cannot tell you how long it will last. Typically we expect a valve repair to last more than 10 years and your weight should not play a role unless you are morbidly obese.

## Topic 7 - Percutaneous Aortic Valve Procedure

**george\_s:** How effective and safe is aortic valve replacement with stent through artery? Is there anywhere in USA that does this? TX in advance.

**Dr\_Eric\_Roselli:** Many centers in the US are currently involved with the PARTNER trial - the Cleveland Clinic is one of the first sites to participate in this study. It is relatively safe and effective for the highest risk patients. There is a lot of data from

Europe to support this therapy. For now in the US, access to this device is only as part of a trial.

**Gary\_V:** I have been diagnosed with severe aortic stenosis. I'm 68, 6', 185lbs, and fairly active. I've been reading about the trans catheter aortic valve replacement being placed in older non ambulatory people. I understand this procedure has been used in other parts of our world for about eight years now. I realize this is still considered experimental medicine here in the U.S. but when will they start using younger ambulatory subjects for these clinical trials?

**Dr\_Eric\_Roselli:** Although the consideration of having a valve replacement without a chest incision is attractive, the durability of these devices is unknown and will not be known for many years. The difference between this procedure and the more conventional operative approach is that the diseased aortic valve is left in place. I don't think that transcatheter valve replacement will be a good option for young healthy patients for many years to come. The current data from this procedure still has a mortality rate of between 5 and 12 % whereas the average mortality rate for conventional aortic valve replacement is less than 3% nationwide and around 1 % at the Cleveland Clinic.

## Topic 8 - When To Have Aortic Valve Surgery?

**Belle:** What are the specific reasons aortic valve surgery would not be done if the aortic valve was 100% blocked? My sister is near death and they told her they were not to repair her aortic valve, but she does not understand her reasons why. She is presently in between insurances, could that be the reason?

**Dr\_Eric\_Roselli:** 100% blockage of an aortic valve is not compatible with life. Regarding insurance issues, even without insurance, public hospitals usually have the means to address aortic valve disease. If you are not comfortable with the care that you are currently receiving, I suggest you get a second opinion.

**Dhruti:** Dear Doc - One of my friend is diagnosed with a bicuspid aortic valve thickened. With a 2D Echo Test, the findings are Mild AS + Mild AR, LVEF 72%, aortic flow 2.7 m/sec gradient 30 mm/Hg, aorta 2.8 cm ALS-1.9 cm. Mitral Valve : DE-0.82 EF – 3.25 EPPS 2.11 ; LVOT gradient 34 mm/Hg , no veg/clots, No MR/TR. Currently, he is 40years old. Does the above condition call for a surgery. If yes, when would be the best time? Are there any ways to improve this condition without surgery? What type of surgery will be required, if need be? Currently, what are the precautions or medicines to be taken to keep the condition stable? Awaiting your kind revert. Thank You in advance.

**Dr\_Eric\_Roselli:** It does not sound the results you provided calls for surgery at this time. Some patients with a bicuspid valve live a normal lifespan without surgery. The indications for surgery at this time are symptomatic severe aortic stenosis or an

associated aortic aneurysm at risk for rupture or dissection greater than the risk for surgery.

**shaneme123:** When would surgery make sense for a patient with the following: The aortic valve is heavily calcified and bicuspid with a raphe at 9:00 and no demonstrated valve opening. Peak velocity across aortic valve is 4 m/s. Mean gradient across aortic valve is 39 mmHg. Aortic Valve Area is .9-.95 cm<sup>2</sup>. Aortic Valve Area Index is .4 cm<sup>2</sup>/m<sup>2</sup>. There is trace aortic regurgitation.

**Dr\_Eric\_Roselli:** That sounds like severe aortic stenosis and if the patient is symptomatic they should undergo surgery. If symptoms are unclear, then patient should undergo a stress test to assess the significance of the stenosis.

## Topic 9 - Chemotherapy and/or Radiation Heart Disease

**shaneme123:** Does chemo (Hodgkins, using ABVD protocol) have any negative affect on outcome of heart valve surgery? How soon could one have surgery after chemo completes?

**Dr\_Eric\_Roselli:** That depends on consultation between the surgeon, cardiologist and cardiothoracic surgeon. If a patient is able to tolerate the stresses of chemotherapy, I would suspect that their aortic valve disease could probably wait until they have recovered from the treatment before undergoing surgery. Otherwise, a temporizing procedure like balloon aortic valvuloplasty might be an option.

**Barb:** 5. I am a 54-year-old woman who was aware of aortic valve stenosis since the age of 16, and finally had a bovine valve replacement in January 2009. I also had an aortic root aneurysm repair. I was diagnosed with carcinoid cancer in 2001. Surgery was all that was required at that time. I know that carcinoid cancer and valve problems often go hand-in-hand, although I've been told by my doctor that it's not usually the aortic valve that is involved. In November 2009, my carcinoid cancer returned. My personal feelings are that it was brought on by the stress of the open heart surgery. I've also been told that carcinoid tumors can often be successfully treated with a monthly injection of octreotide (a man-made growth inhibiting hormone). My main concerns with starting the monthly injections are the effects that this medication may have on my bovine valve. I am really hoping that I get at least 10 years out of this valve. I would be very interested to know whether monthly injections will impact the valve?

**Dr\_Eric\_Roselli:** I know of no data to suggest that carcinoid increases the risk of structural valve deterioration. Octreotide is based on a naturally occurring hormone and should not harm your bovine valve but this is really unknown.

**bcassiani:** Dr Roselli, I am a 66 year old woman with aortic stenosis .6mm<sup>2</sup> I have had mantle radiation for Hodgkin's Disease. I have a pericardial effusion and left pleural effusion. I am currently seeing if I am a candidate for the Partners Trial but might need bypass I am told I should only have open heart surgery as a last resort and that I am not a

candidate for minimally invasive due to scarring from the radiation. Do you have any advice and if I am turned down for the Partners trial are there any other trials that I might be a candidate for.

**Dr \_\_Eric\_Roselli:** Radiation heart disease is a particularly difficult problem. I would suggest you be evaluated by someone with a lot of experience dealing with this. We have had fairly good success with surgery in patients with radiation heart disease but not all patients have been considered candidates unfortunately. I would suggest you get a second opinion.

## Topic 10 - Other Questions

**hobbs:** I will be having surgery at Cleveland Clinic for HMC. They will be doing a Septal Myectomy and hopefully repair the mitral valve. Is this a high risk surgery?

**Dr \_\_Eric\_Roselli:** You should talk to your surgeon about the details about your specific risk. Most of the risk from this operation is related to your comorbidities so if you are otherwise healthy this is a low risk operation.

**Adam:** How do you see the future of aortic valve surgery changing? How will it transform over the next five years? What technologies exist or need to be created to enable your vision?

**Dr \_\_Eric\_Roselli:** Aortic valve surgery will continue to become less invasive. Newer valves will become more durable and our understanding of the causes of aortic valve disease will continue to improve. In the next 5 years, I think that transcatheter valves will play an increasing role for older, high risk patients where durability is less of an issue. Sutureless valves will play an increasing role to facilitate aortic valve replacement through lesser invasive approaches.

**Wally:** I had valve surgery in October 2007. At the time, they tried to do an ablation to relieve the fibrillation. Unfortunately, it was not successful. I have never really recovered from the operation. My heart only beats at one rate, which is always between 102 and 110. I always become tired even with a small amount of exercise. I have the option of trying to do the ablation again. It is a difficult procedure because the catheter can get caught in the valve. The odds of success depend on the length of burn that will be required to stop the electronic pulses. While it is possible to again do open heart surgery, it is difficult due to scarring from the original surgery. This is relatively unusual surgery. Have you heard of any new results in this area? Do you have recommendations about how to get second opinions?

**Dr \_\_Eric\_Roselli:** If you wish to be referred here for an evaluation by our eps doctors for possible ablation therapy we can make arrangements. Re-do surgery in and of itself does not increase risk. We do over 400 atrial fib surgeries per year and even more



catheter ablations with very good success, including patients who have had previous ablation.

**Terry:** Dr. Roselli, I am 50, in good health and weight, but due to radiation treatment for Hodgkins 30 years ago I had a triple by-pass in 2002 and will within the next couple years or so need a aortic valve replacement. the aortic valve is trileaflet and stenotic. The mean gradient is 31mmHg. Aortic valve area 0.8 cm<sup>2</sup> consistent with severe aortic stenosis calculated based on LVOT diameter of 2.1 cm, aortic valve VTI of 0.8 and LVOT of 0.2. Estimated ejection fraction is still 60 to 65%. So far I have no real signs of problems that they are looking for that would indicate a need at this time for replacement. It will happen soon enough. We are hoping to hold out as long as possible due to not wanting to open chest again until totally necessary because of past by-passes. My questions are with having been opened once how many times can or should that usually be done, and how well are they doing with replacement of aortic valve though other means rather than reopening the chest cavity. Will having the by-passes previously effect my chances of other means of replacement. I really appreciate you taking the time.

**Dr \_\_Eric\_\_Roselli:** There is not limit to the number of times you can undergo sternotomy or thoracotomy. But it does get more difficult after the first or second reoperation.

**Frank:** If you were a patient, needing aortic valve surgery, who would you have as your surgeon?

**Dr \_\_Eric\_\_Roselli:** I would choose an experiences surgeon at an experienced center who my cardiologist and I trust.

**Cleveland\_Clinic\_Host:** That is all our questions for today - I am so sorry that we had difficulty today with our chat functionality. Adam will post the transcripts on his blog as soon as possible. Thank you for your time today, Dr. Roselli.

**Dr \_\_Eric\_\_Roselli:** Thank you for having me today.

#### **IV. To Contact Dr. Roselli**

To arrange an appointment or a remote consult with Dr. Roselli, please call his office at (216) 444-0995.

#### **V. To Learn More About The Cleveland Clinic**

To learn more about heart surgery at Cleveland Clinic Heart and Vascular Institute, please visit <http://my.clevelandclinic.org/heart/> or call the Miller Family Heart and Vascular Institute Resource & Information Nurse at 216.445.9288 or toll-free at 866.289.6911. We would be happy to help you.

