

2-YEAR HIP FOLLOW-UP

It is important to review the status of your hip implant(s) during an office visit at six weeks, one year, two years, and every other year postoperatively thereafter for your safety even though you are feeling great. Long distance follow-up evaluations for out-of- state patients are fine. We would like to ask you to complete the following evaluation protocol.

- 1) *Hip questionnaire:* We keep track of each joint separately in our database. Therefore, I would like to request that you fill out a self rating form for **EACH** hip, even if both are identical. Please send to us.
- 2) *Hip X-Ray :*
 - Add your name to the x-ray request
 - Have the x-ray of your hip(s) done at your local hospital or radiologist and request a CD copy of this x-ray be sent to us
- 3) *Physical Therapy:*
 - Add your name to the physical therapy evaluation request
 - Give the order and physical exam form to your physical therapist
 - Send the results to us
- 4) *Metal Ion Test:*
 - Add your name to the prescription
 - Have the test done at the nearest lab
 - Send the results to us
 - ****Please avoid multi-vitamins for 1-week prior to testing.****

As soon as we receive all of the above, I will review them and send you a written response. If you prefer to travel here for an office visit for evaluation, please call our appointment line to arrange this (803) 256-4107 (routine office charges will apply). If you are having significant problems with your hip, I will need to see you in the office for complete examination to best diagnose it.

Thank you for your attention to this matter. If you have any questions, please contact us for assistance.

Thomas P. Gross MD

Lee Webb, DNP, APRN, FNP-C

Attached Forms:

1. *Follow up hip questionnaire* (page 3-8)
2. *Hip XR request and radiologist's instructions* (page 9-11)
 - 3a. Physical exam form (page 12-13)
 - 3b. Physical therapy evaluation letter (page 14)
 3. 3c. Physical therapy evaluation request (page 15)
- 4a. Metal ion information: do not submit; for your use only (page 16-17)
- 4b. *Metal ion test prescription* (page 18)
- 4c. Quest Facility Locations* (page 19-20): do not submit; for your use only

For metal ion bloodwork, we prefer that our patients use Quest Diagnostics. We have attached a list of all Quest locations in the U.S. If you are not local to a Quest facility, any blood work laboratory will do (call ahead to make sure they cobalt/chromium testing).

E-mail: grosspatientfollowup@midlandsortho.com

Call: (803) 933-6127

FAX: (803) 933-6339

If you don't have any questions, please follow the protocol and fill out each form below, then FEDEX the packet to:

Dr. Thomas P. Gross
Attn: Hip follow-up
Midlands Orthopaedics & Neurosurgery
1910 Blanding St.
Columbia, SC 29201

Hip Follow-Up Form

Name: _____ Date _____

Follow-up Information

1. Where was this form completed?

- Office
- Phone
- Mail-In
- Internet

2. This questionnaire is for the evaluation of my (side) hip.

- Left
- Right

3. I have had problems with my (side) hip(s).

- Left
- Right
- Both

4. Dr. Gross has operated on my (side) hip(s).

- Left
- Right
- Both

5. Another surgeon has operated on my (side) hip(s).

- Left
- Right
- Both

6. Dr. Gross performed the followed operation(s) on me:

- Total hip replacement
- Hip resurfacing
- Revision hip surgery
- Other: _____

Complications

1. List any complications you had post-surgery:

- None
- Wound Infection
- Deep Venous Thrombosis
- Pulmonary Embolus (Blood clot travelling to lungs)
- Partial Sciatic Palsy (Nerve injury)
- Dislocation
- Fracture
- Loosened implant
- Other: _____

2. Did you have any complications that required further surgery?

- Yes; Please explain: _____
- No

Clinical Function Score

1. What category most closely represents your pain level?

- None, or so insignificant that I ignore it
- Regularly slight
- Mild
- Moderate
- Severe
- Disabled

2. My hip pain is located in my (check all that apply):

- No pain
- Groin
- Front of thigh
- Buttock
- Side of thigh
- Side of hip, near scar
- Other pain: _____

3. Please circle your regular pain level on the following scale.



4. Please circle your highest hip pain level on the following scale.



5. Please indicate the severity of your limp, if any.

- None
- Slight
- Mild
- Moderate
- Severe
- Disabled

6. Please indicate your use of support, if any.

- None required
- Use of a cane or a stick for long walks or high activity only
- Use of a cane or a stick almost always
- Use of one crutch almost always
- Use of two crutches or a walker
- Unable to move across the room

7. I am able to walk _____ without a break:

- Over one mile/Unlimited
- 6 blocks or roughly 30 minutes
- 2-3 blocks or roughly 10-15 minutes
- Indoor walking only
- Bed and chair only

8. Which of the following describes how you take stairs?

- Normally foot-over-foot without NEEDING the railing
- Normally using the railing
- Leading with non-painful hip one step at a time
- Cannot take the stairs

9. I am able to put socks/shoes on....

- With ease
- With difficulty
- Unable to put socks or shoes on without help

10. Under what circumstances can you sit comfortably?

- Any chair/1+ hour
- High chair/30 minutes
- Unable to sit comfortably

11. Are you able to get in and out of a vehicle without help?

- Yes
- No

12. Please list any unrelated orthopaedic issues that you believe might effect your hip function score (i.e. bad back, arthritis in other hip, non-hip pain, etc.)

- Yes; please list: _____
- No

13. How is your hip joint now compared to before surgery?

- Better than my normal, healthy, pre-arthritis/damaged hip
- Feels just like my normal, healthy, pre-arthritis/damaged hip
- Much better than before surgery, with minor aches and pains
- Somewhat better than before surgery
- About the same
- Worse than before surgery

Activity Score

1. Which best describes your current level of activity? (Please circle one.)

Class	Description
1	Wholly inactive, dependent on others, and can not leave residence
2	Mostly inactive or restricted to minimum activities of daily living
3	Sometimes participates in mild activities, such as walking, limited housework, and limited shopping
4	Regularly participates in mild activities
5	Sometimes participates in moderate activities, such as swimming, or could do unlimited housework or shopping
6	Regularly participates in moderate activities
7	Regularly participates in active events, such as bicycling
8	Regularly participates in active events, such as bowling or golf
9	Sometimes participates in impact sports, such as jogging, tennis, skiing, acrobatics, ballet, heavy labor, or backpacking
10	Regularly participates in impact sports

2. Please list any activities that you participate in regularly.

3. Please list any vigorous activities that you occasionally participate in.

4. My activity is now _____ compared to before surgery.

- Higher
- Similar
- Lower

Conclusions

5. Overall, are you happy with your decision to have this surgery?

- Yes
- No

6. Do you have any comments?

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orthopaedics
& NEUROSURGERY

(803) 256-4107
1910 Blanding St.
Columbia, SC 29201
1013 Lake Murray Blvd.
Irmo, SC 29063

R_x FOR _____
ADDRESS _____ DATE _____

Please select/circle ONE section (either 1, 2, or 3) to ensure the appropriate xrays are obtained from the patient's radiology facility.

1. LEFT
 - a. Diagnoses:
 - i. Osteoarthritis (OA) of the hip – **M16.12**
 - ii. Hip pain – **M25.552**
2. RIGHT
 - a. Diagnoses:
 - i. Osteoarthritis (OA) of the hip – **M16.11**
 - ii. Hip pain – **M25.551**
3. BILATERAL
 - a. Diagnoses:
 - i. Osteoarthritis (OA) of the hip – **M16.10**
 - ii. Hip pain – **M25.559**

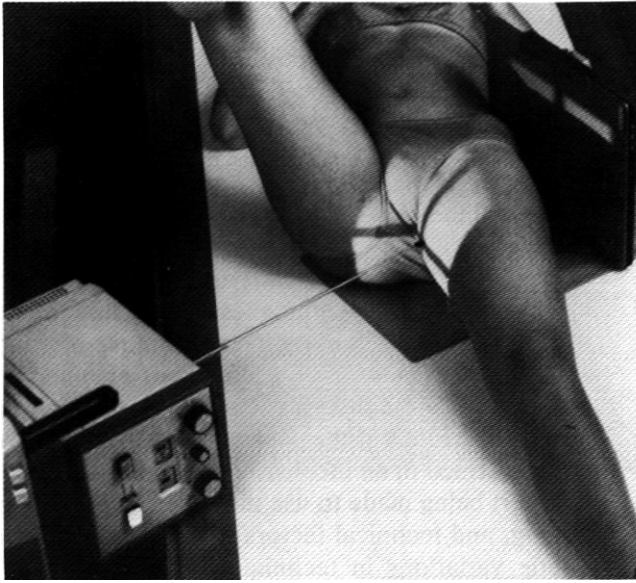
Views (please include all of the following):

1. AP Pelvis Standing (Please label as "STANDING")
2. AP Pelvis Supine (Please label as "SUPINE")
3. Johnson Lateral/Cross-table lateral

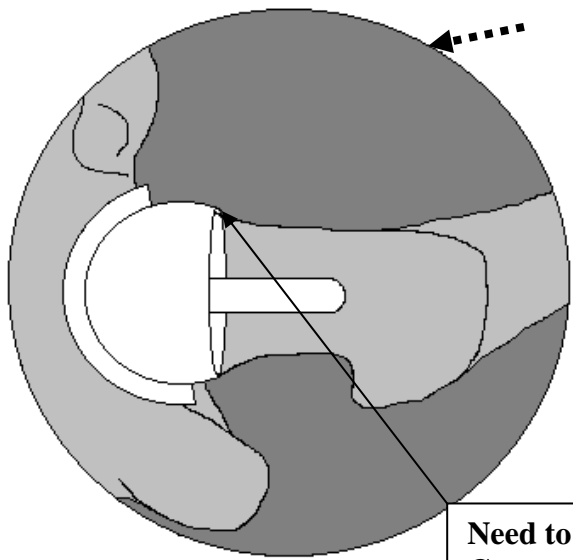
Please provide the patient with a CD digital copy of these x-rays for my review, and mail to:

Midlands Orthopaedics & Neurosurgery

ATTN: Gross follow-up
1910 Blanding Street
Columbia, SC 29201



Instructions for Johnson Lateral for patients post hip resurfacing



The perfect true lateral:

- Visualize the anterior and posterior neck, just inferior to the femoral component.
- **The more neck Anteversion, the more the hip needs to be flexed...**

Need to see cortex at Component-Neck junction

C

Fig. 10-2. True-lateral (Johnson or cross-table) lateral view. (A) Position of patient. The long axis of the left femoral neck is localized by imaging a line drawn between the anterosuperior iliac spine and the superior border of the symphysis pubis, determining the midpoint of the line, and then palpating the greater trochanter and imaging a point 1 inch

distal to it. A line drawn between these two points parallels the long axis of the femoral neck. **(B)** The cassette is placed in the vertical position with its cephalad border in contact with the body at the level of the iliac crest; it is parallel with the long axis of the femoral neck. The central ray is perpendicular to the long axis of the femoral neck and cassette and is centered 2.5 inches below the point of intersection of the localization lines. **(C)** Roentgenogram of hybrid surface arthroplasty. The ischium is toward the bottom of the image. (Fig. B, from Ballinger PW: Merrill's Atlas of Radiographic Positions and Radiologic Procedures, 6th Ed., Vol. 1. CV Mosby, St. Louis, 1986, with permission.)

HIP FOLLOWUP PHYSICAL EXAM

Thomas P. Gross M.D
 Midlands Orthopaedics
 1910 Blanding St
 Columbia SC 29201

<p>Office Use Only</p> <p>Date Received: ____/____/____</p> <p>Office Record Number: _____</p>

Name of patient being evaluated: _____

Date of Surgery: Right: _____ Left: _____

Type of Surgery: Right: _____ Left: _____

Interval from Surgery:

- | | |
|------------|-----------|
| Right: N/A | Left: N/A |
| 6 weeks | 6 weeks |
| 1 year | 1 year |
| 2 year | 2 year |
| Or _____ | Or _____ |

TO BE COMPLETED BY A PHYSICAL THERAPIST

1. **Patient Charnley Category:**
 A1: Unilateral with opposite hip normal
 A2: Bilateral with satisfactory function of opposite hip
 B: Unilateral other hip impaired __
 C: Multiple arthritis or medical infirmity

2. Range of Motion:	Right	Left
a. Flexion Contracture*	_____	_____
b. Flexion to**	_____	_____
c. abduction at 45 degees of flexion to	_____	_____
d. adduction at 45 degrees of flexion to	_____	_____
e. external rotation at 45 degrees of flexion to	_____	_____
f. internal rotation at 45 degrees of flexion to	_____	_____
g. IR with knee flexed to 90 degrees ***	_____	_____

* Enter 0 if the leg is able to lie flat on the exam table.
 ** Do not push past 100 degrees before 1 year
 ***Do not perform this one until one year after surgery please

3. **Gait:**
- Normal
 - Antalgic
 - Trendelenburg
 - Short Leg
 - Other _____

4. **Trendelenburg Sign:**

- Positive
 - Negative
- 5. Active SLR painful?**
- No
 - Yes If Yes Where? _____
- 6. Strength SLR (grade 0-5):** _____
- 7. Strength Abduction (grade 0-5):** _____
- 8. Leg Length:**
Equal Left short _____ Right short _____
- 9. Tender:**
- No
 - Yes If yes, where? _____
- 10. Condition of incision:** _____

Physical Therapist Signature:

Date: _____

Print Name: _____

Address: _____

Please give a copy to the patient and mail one to me at the above address. Thank you.

Updated 1/31/08

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(803) 256-4107
Fax: (803) 933-6339
1910 Blanding St.
Columbia, SC 29201
1013 Lake Murray Blvd.
Irmo, SC 29063

Dear Physical Therapist:

The person presenting this form has had a hip surface replacement performed by Dr. Thomas P. Gross _____ weeks/years ago. We are asking that you objectively evaluate his/her hip and send me a report. If the patient is less than one year postop, the hip cannot be pushed into extreme flexion, adduction and internal rotation. (See form). Please record the range of motion that can be achieved by gentle examination in this case.

If the patient is approximately six weeks postop, please review and assist them with my Phase II Hip Exercise Program. The patient has been instructed to bring this with him/her in this situation.

Thomas P. Gross M.D

Please FAX to: 803-933-6339 and give the patient a copy.

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Irmo, SC 29063

FOR _____

R ADDRESS _____ DATE _____

Please evaluate both hips in the above patient for range of motion and strength and provide a report on my standardized form included.

Thomas P. Gross M.D

Please FAX to: 803-933-6339 and give the patient a copy.

- **I request that you obtain blood testing for metal ions as part of your routine hip follow-up**
- **A prescription is enclosed for Cobalt and Chromium levels.**
- **The test should be done at a Quest laboratory. This is a national lab with branches throughout the US. Please check the Internet (or attached list) for a location near you.**
- *****You must avoid vitamins and other supplements for one week prior to testing.*****

Recent scientific data suggests that this is a good method of evaluating metal bearing implants for wear. Enough evidence now exists for us to begin using blood levels for metal ions to monitor patients for implant wear problems. If we do discover elevated levels, I advocate closer follow-up and further evaluation.

All artificial implants wear at the bearing surface. If the bearing is metal-on-metal, this wear debris is cobalt and chromium. It usually gets absorbed by the body and transported to the kidney where it is removed from the body. In rare cases there is a higher than expected wear rate and these wear particles accumulate in the local tissues around the hip. If the load of particles gets too high, a local inflammation can result. If levels in the blood are high, this may indicate that the local tissues are overloaded. Therefore, measuring the blood levels is a good way to screen patients for high wear and possible local tissue reaction in the hip.

I have personally performed over 3000 metal bearing hip resurfacings/ replacements in the last 10 years. I have only twice had to revise implants for this wear problem. The overall failure rate has been very low and other types of failures like fracture or loosening are far more common. Furthermore, in all revisions that I have performed for loosening of the cemented femoral resurfacing component, I have never come across a case of accelerated wear at the time of surgery. Furthermore, about 300,000 total knee replacements are done in the US yearly and research has shown that similar ion levels are measured with these implants as in hip resurfacings. Total Knee replacements have been performed in much higher numbers and for many more years than hip resurfacings. We therefore know that typical ion levels are well tolerated by most people.

Nevertheless, I have become convinced that closer monitoring with metal levels is desirable. I suggest that we obtain levels beginning at 2 years post surgery and then repeat them every other year at the time of your routine follow-up. If you come to see me in the office, I suggest that you have the levels drawn 2-4 weeks in advance so that the results are available for our visit. If your surgery was done over 2 years ago, anytime is a good time to get the first level. We should then recheck at the time of your every other year routine follow-up dates.

A prescription can be downloaded from my website. It is very important that the same laboratory always does these levels, because the results vary widely between labs. I have chosen Quest Laboratories, because they have a nationwide presence and have a good reputation. You should look up Quest labs online and make **sure** that your levels are done at one of their facilities or at a facility that sends their labs to Quest. If labs are drawn at Providence Northeast Hospital in Columbia, they are sent to Quest. Quest is specifically listed on my prescription as well to serve as a reminder. If your levels are done at any other lab, the results may not be comparable to the rest in my database.

It is important that you avoid taking vitamin or mineral supplements for at least 1 week before testing. Many of these supplements contain chromium and can lead to false reports on the blood tests.

Any joint implants that contain cobalt-chrome metal can raise your levels. This includes total knees, total hips, resurfacings, and total shoulders.

I recommend routine follow-up for all patients with joint replacements even if they are doing well. I constantly make an effort to contact patients and try to remind them that follow-up is important. It is particularly important to monitor new technology regularly. My currently recommended follow-up intervals are at 6 weeks, 1 year, 2 years, and every other year thereafter. The first two visits are best done at my office in person. After that time, remote follow-up is adequate. Of course, you are always welcome to come see me at any time!

At 2 years and beyond, information on how to complete remote follow-up is on my website. The following items are now recommended at each evaluation:

- 1. Standing AP pelvis XR labeled "standing" (We require a digital DICOM image on a disc).**
- 2. Questionnaire filled out online. Directions on my website.**
- 3. Blood test: metal ion levels Cobalt and Chromium. A prescription is available on my website.**

If you have only one implant in your body, and the cobalt and Chromium levels are below 10ug/L each, we will just continue routine monitoring. If the levels are higher, further evaluation may be advised. If we receive your levels, I will send you a note that the levels are in the expected range, or I will contact you within 2 weeks of receiving the test results. If you don't hear from us, we have not received your test results. Please contact our office or the lab and be sure that the levels get to us.

There will be no charge for reviewing your XR, questionnaire, and metal ion levels and sending you a notification. I would like to continue to monitor your results at routine intervals to be sure that you are doing well. If you have had revision surgery, I want to know about it. If you are having a problem, I would like to help you resolve it, if possible. Please keep in touch.

With best Regards,

Thomas P. Gross, MD
www.Grossortho.com
803.256.4107

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(803) 256-4107
1910 Blanding St.
Columbia, SC 29201
1013 Lake Murray Blvd.
Irmo, SC 29063

R_x FOR _____
Address: _____ Date: _____

Request for a blood test for metal ion levels of COBALT and CHROMIUM

STOP TAKING VITAMINS AND MINERAL SUPPLEMENTS 1 WEEK PRIOR TO TEST.

We request that test be performed at the patient's local QUEST laboratories, if possible.

DIAGNOSIS:	<input type="checkbox"/> OA, left hip (M16.12)	<input type="checkbox"/> Left hip pain (M25.552)
(choose one	<input type="checkbox"/> OA, right hip (M16.11)	<input type="checkbox"/> Right hip pain (M25.551)
that applies)	<input type="checkbox"/> OA, unspecified hip (M16.10)	<input type="checkbox"/> Unspecified hip pain (M25.559)

If you require an electronic prescription, please call: 803-933-6127

Please FAX to 803-933-6339 and give the patient a copy.

If you can't find a lab for metal ion tests from the following address, you can locate a lab from the link by yourself as well:
http://www.questdiagnostics.com/hcp/psc/jsp/hcp_psc_index.jsp#bottom

NAME	ADDRESS	CITY	STATE	ZIP	PHONE
Quest Diagnostics- Myrtle Beach	909 Medical Cir	Myrtle Beach	SC	29572	866-697-8378
Quest Diagnostics - Aiken	156 University Pkwy Ste 100	Aiken	SC	29801	866-697-8378
Quest Diagnostics- Bluffton	25 Sherington Dr. Ste B	Bluffton	SC	29910	866-697-8378
Quest Diagnostics - Charleston-West Ashley	1470 Tobias Gadson Blvd Suite 101	Charleston	SC	29407	866-697-8378
Quest Diagnostics- James Island	418 Foly Road Sutie C	Charleston	SC	29412	866-697-8378
Quest Diagnostics - Columbia	3010 Farrow Rd Ste 110	Columbia	SC	29203	866-697-8378
Baptist Easley Hospital - Specimen Collection Agreement	200 Fleetwood Dr	Easley	SC	29640	864-442-7694
Quest Diagnostics - Greenville	1003 Grove Rd Suite A	Greenville	SC	29605	866-697-8378
Quest Diagnostics - Greenwood	105 Vine Crest Court Suite 1300	Greenwood	SC	29646	866-697-8378
Quest Diagnostics- Hilton Head-Heritage	460 William Hilton Pkwy	Hilton Head Island	SC	29926	866-697-8378
Marion County Medical Center - Third Party Specimen Collection	2829 E Highway 76	Mullins	SC	29574	843-431-2550
Newberry County Memorial Hospital - Purchased Service	2669 Kinard St	Newberry	SC	29108	803-276-7570
Quick Draws - Third Party Collection Site	10135d Clemson Blvd	Seneca	SC	29678	864-888-0027
Quest Diagnostics - Summerville	104 Morgan Pl Ste C	Summerville	SC	29485	866-697-8378

Quest Diagnostics - Asheville	41 Oakland Rd Ste 150	Asheville	NC	28801	866-697-8378
Quest Diagnostics - Charlotte-University	10320 Mallard Creek Rd Ste 290	Charlotte	NC	28262	866-697-8378
Quest Diagnostics- Fayetteville	3186 Village Dr Ste 202	Fayetteville	NC	28304	866-697-8378
Caldwell Memorial Hospital - Specimen Collection Agreement	321 Mulberry St SW	Lenoir	NC	28645	828-757-5256
Clinical Laboratory Service - Third Party Collection Site	102 Lincoln Medical Park	Lincolnton	NC	28092	704-732-1752
Lake Norman Regional Medical Center - Third Party Specimen Collection	171 Fairview Rd	Mooresville	NC	28117	704-527-4968
Medac 1- Third party Collection	4402 Shipyard Blvd	Wilmington	NC	28403	910-791-0075
Medac II - Third Party Collection Site	1142 Military Cutoff rd	Wilmington	NC	28405	910-256-6088
Medac III - Third Party Collection Site	8115 Market St	Wilmington	NC	28411	910-686-1972
Quest Diagnostics- Athens	1000 Hawthorne Ave Ste Q	Athens	GA	30606	866-697-8378
Quest Diagnostics - Augusta	1109 Medical Center Drive Suite 2A	Augusta	GA	30909	866-697-8378
Evans Memorial Hosptial	200 N River St	Claxton	GA	30417	912-739-5110
Eatonton Medical and Surgical Center	132 Sparta Highway	Eatonton	GA	31024	706-485-8495
Candler Hosptia- Rapid Response Testing and Specimen	5353 Reynolds St	Savannah	GA	31405	912-819-7250
East Georgia Regional Medical Center- PSA	1499 Fair Rd	Statesboro	GA	30458	912-486-1610
McDuffie Regional Medical Center - Third Party Specimen Collection	521 Hill Street, Southwest	Thomson	GA	30824	706-597-5287
Vidalia Lab Services, Inc- Specimen Collection Agreement	1802 Teston Ln	Vidalia	GA	30474	912-537-0622