



Orthotech Professional

Volume 2, Issue 1
February/March 2005

A publication of the National Association of Orthopaedic Technologists

TIP OF THE MONTH

INDEX RAY AMPUTATION

by Phelo Keller, OTC, OT-SC

A twenty-year old man was at work about an hour when his right index finger was nearly amputated by a heavy sharp piece of steel that fell on it. The finger was only hanging by a couple of threads of tissue. He was rushed directly to the emergency room for treatment.

X-Ray Finding

A complete traverse fracture in the proximal phalanx of the index finger. There is a very deep laceration at this site.

Impression

After reviewing the x-ray with the patient and his family, the physician examined the patient's right hand, which shows an essentially complete amputation of the index finger through the proximal phalanx. Only about half a centimeter of skin and subcutaneous tissue remains intact. Both neurovascular bundles, as well as bone and tendon, have been severed. The x-ray confirms the level of amputation with a bone level almost at the joint just proximal.

The physician discussed alternative treatments with the patient and his parents. While reimplantation of the finger could be attempted, the index finger is notorious for poor results following major trauma including stiffness, hyperthesia, and cold tolerance.

The physician preferred the alternative of index ray amputation. He carefully counseled the patient and his parents on the procedure. While this method would permanently remove the index finger and the appearance of the hand, in most experiences the patients usually develop excellent use of the middle finger for pinch and grip and have an acceptable functional result. The parents and patient were

in agreement, but for additional peace of mind on the parents' part, a consultation from another surgeon was given. The consulting physician was in complete agreement with his recommendation for ray amputation and would definitely advise against reimplantation of the index finger at this level. The patient and his family were again counseled on the procedure. The benefits of surgery as well as the possible risk and complications were explained. The agreement was made.

Operative Procedure

The patient was given a general anesthesia and right upper extremity prepped and draped in the usual manner with a tourniquet for hemostasis. A longitudinal incision was made dorsally after the remaining skin attachment of the distal finger was severed. Skin over the proximal phalanx was not in very good condition and there were some gaps. The incision was planned to take advantage of remaining skin in fashioning of flaps. Dissection was carried down through subcutaneous dorsally extensor tendons and were then divided proximally and metacarpal shaft exposed. Subposterial dissection exposed the metacarpal shaft and it was divided obliquely at the approximal level with a power saw. Subperisosteal dissection was continued with the proximal metacarpal graft with a towel hook.

The interosseus and lumbrical tendons were divided at the extensor hood level and volar plate dissected free. Finally, the flexor tendons were placed under tendon and divided to retract proximally, completing the ray re-section. Prior to this step, the distal soft tissues had been thoroughly debridged and irrigated, the neurovascular bundles both identified distally and dissected out to the MP flexion crease. The digital

continued on page 2

Index Ray Amputation

continued from page 1

arteries were now clamped and tied, with the digital nerves both gently dissected back proximal to the metacarpal head level, preserving branches to the volar skin as long as they were not under tension. The nerves were both ligated distally and gently turned up into the space previously occupied by the metacarpal head, and then were gently sutured into place on the interosseous muscle bellies providing maximum protection. Following thorough irrigation with a diluted Betadine solution, the periosteal sleeve from the metacarpal was closed dorsally and distally, further protecting the digital nerves. A small suction drain was placed in the periosteal sleeve prior to this step as well. Skin closure was then begun proximally in the dorsal aspect and carried out distally, trimming skin flaps as the closure progressed to provide maximal skin and soft tissue padding without excessive dog ears. Good cosmetic closure resulted with extra padding on the volar aspect. Fluff dressing was applied and the patient left the operating room in satisfactory condition.

Literature & Conclusions

In a review of 41 patients with index transmetacarpal amputation, Murray, Carman, and Mackenzie found hyperthesia interfering with function in 37.5 % of the patients and in 10% percent, disabling. Their conclusion was that the excessive mobilization of the radial digital nerve to the index finger was responsible for this, and in nine of the patients who had subsequent exploration, the symptoms were not relieved. Fisher and Goldner reported a similar problem in five patients. It is of interest that this complication usually appears six to eight weeks after surgery, although it may initially be relieved by a subsequent procedure, the symptoms may recur at approximately the same time interval. Twenty one of the thirty-four patients who had elective ray amputation in the series of Murray and colleagues complained of pain in the pre-existing stump before their transmetacarpal relieved of their symptoms following the procedure. This information is important in terms of advising the patient preoperatively as to the possibility of persistent postoperative symptoms.

6-8 weeks

The cosmetic appearance of an index ray amputation is highly acceptable.

ABOUT THE AUTHOR



Phelo Keller, OTC, has 24 years of experience as an Orthopaedic Technologist. He has been a member of the NAOT Board since 1997, is the current Secretary and is an active member of the Louisiana Chapter of Orthopaedic Technologists. Phelo is employed at the Morgan City Orthopaedic Clinic in Morgan City, LA.

Association News

CALL FOR NOMINATIONS

NAOT is now seeking nominations for the offices of Vice President and Secretary. All NAOT members are urged to submit nominees for these two offices with the following guidelines in mind:

- Nominees must be NBCOT-certified orthopaedic technologists who have been members in good standing for at least one year.
- The Nominations Committee will review each nominee's background information, including certification status, years in organization and participation in NAOT.
- Nominations can be submitted by mail, fax or email no later than April 15, 2005. Self nominations are permitted.
- Nominees will be contacted before they become official candidates. All nominees will be asked to submit a headshot photograph along with a brief statement of their goals for the association, to be published in the April/May 2005 issue of Orthotech Professional and on the NAOT website.
- Elections will take place during Summer 2005 via on-line absentee ballot for those members who cannot attend the Annual Symposium and at the General Business Meeting at NAOT's 23rd Annual Symposium in Phoenix on July 29, 2005.

If you have any questions, please contact Kent Lindeman, NAOT's Executive Director, at (925) 472-5822 or via email at naot@hp-assoc.com.

2005 SALARY SURVEY

Over 225 members have already participated -- have you? If not, please visit www.naot.org or contact (925) 472-5822 to have the survey sent to you. Results will be published in the Fall 2005 issue of The Journal.

QUESTIONS FOR CEU CREDIT: Feb/Mar 2005

Please answer the questions in the space provided below and return to NAOT via mail, fax or email (see information below) to receive 1 CEU (Category 2).

1. Following major trauma to the index finger, what reasons were given for not reimplanting the index finger?

2. What tendons were divided at the extensor hood level?

3. What information is important in terms of advising the patient preoperatively?

4. What type of drain was used?

5. What centimeter of the skin and subcutaneous tissue remained intact?

Name _____

NAOT Member No. _____

Email address _____

OTC Number _____

Return to NAOT via fax at (925) 472-5901 or by mail to 2950 Buskirk Avenue, Suite 170, Walnut Creek, CA 94597. This information may also be submitted on-line at www.naot.org/onlineceus.html.

ABOUT THE AUTHOR



Cindy Henderson, OTC, LO has 28 years of experience as an Orthopaedic Technologist. She is currently NAOT president and recently co-chaired the 2005 AAOS OT1 course held in Washington D.C. She is employed at The Brace Place in Oklahoma City, OK.

23rd Annual Clinical Symposium

July 27-30, 2005

Hyatt Regency • Phoenix, Arizona

To register, visit www.naot.org

Approved by NBCOT for 31 Category 1 credits (8 pre-conference and 23 conference) -- 11.5 Category 1A

CODING CORNER

2005 HCPCS Coding Changes

by Cindy Henderson, OTC, LO

All orthopaedic office, clinic and hospital billing managers please note! The normal 90-day grace period that has previously been given when new HCPCS coding changes are instituted each year has been eliminated. Effective January 1, 2005, the Centers for Medicare and Medicaid Services (CMS) will only pay claims with the correct, new codes. Since CMS changed many of the L codes that relate to lower extremity orthoses, you need to know the new codes and submit claims accordingly. Listed below are some of the major changes.

NEW CODES

L1932 - AFO, rigid anterior tibial section, total carbon fiber or equal material, prefabricated, includes fitting and adjustment.

L4002 - Replacement strap, any orthosis, includes all components, any length, and any type.

CODE DESCRIPTION CHANGES

The add-on codes listed below have language changes to include: "for custom fabricated orthosis only."

L2320, L2330, L2755, L2800

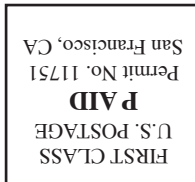
L4040, L4045, L4050, L4055

This could greatly change your reimbursement for certain prefabricated knee orthoses, and some suppliers give add-on codes as suggested codes but as of January 1, 2005 the codes will not apply to off the shelf products.

If a code does not describe the product and if the supplier has not submitted the product for SADMERC classification, you may need to use a miscellaneous code when filing; for example, L2999 for lower extremity, L0999 for spinal, L3999 for upper extremity. Be aware that these codes will require follow up information from CMS or other third party billers before claims payment.

For the latest CMS updates, please visit www.cms.hhs.

RETURN SERVICE REQUESTED
Walnut Creek, CA 94597
2950 Buskirk Avenue, Suite 170



ORTHOTECH PROFESSIONAL • February/March 2005

2005 BSN Medical Call for Papers – Win an All-Expenses Paid Trip to Phoenix!



The Fall 2005 issue of The Journal of the National Association of Orthopaedic Technologists is now accepting papers, articles, and case studies for publication. All articles/papers that are submitted are eligible for the 2005 BSN Medical Paper of the Year. The winning entry will receive \$500 cash, a

plaque and an all-expenses paid (up to \$2,000) trip for one author to attend NAOT's 23rd Annual Symposium in Phoenix, AZ on July 27-30, 2005 to present their paper. Second place receives \$300 cash and third place \$100.

Materials submitted should be original and not simultaneously submitted to any other journal. All articles submitted will undergo a review by the NAOT Editorial Review Board. Articles submitted should focus on topics related to orthopaedic technology. Originality, appropriateness, timeliness, accuracy and grammar will be considered in the review process. The deadline for entries has been extended to **May 1, 2005**. For additional details on submission criteria, please visit www.naot.org/publications.html or contact NAOT at (925) 472-5822. If you have questions about article content, please contact Robyn Masseth, NAOT's Publications Chair, at (701) 234-8770 or via email at robynmasseth@meritcare.com.

MEMBER SPOTLIGHT

Hal Hart, OTC

Hal Hart is a Certified Orthopaedic Technologist who works in Jackson, Mississippi. He works for twelve orthopaedic surgeons at Mississippi Sports Medicine Orthopedic Center. Hal was originally hired as a file room clerk in an orthopedic office and just happened to be in the right place at the right time. He was subsequently trained as an orthopaedic technologist and has been employed as an ortho tech for the last 18 years.



Hal Hart, OTC

Hal's tips: Set the patient at ease by being confident in what you are doing, always give instructions, don't be intimidated, be honest, answer all questions to avoid phone calls, and give the best and no less. Finally, always say a prayer before work; you never know what the day will be like.

