Representative Clinical Reports
Using LifeNet Health Allograft Bio-Implants
in Sports Medicine Procedures
Human Clinical Reports Using LifeNet Health FlexiGraft Sports Medicine Tendons and Ligaments


• A retrospective cohort from a US health care system’s ACL registry looked at 5,968 primary ACL reconstructions performed between 2005 - 2012 and examined the association of graft processing techniques, patient characteristics, and graft type with risk of revision surgery. The paper found that the use of Allowash® processing and donor age did not affect revision rate significantly, but did find BioCleanse graft processing to be associated with a higher risk of clinical failure. Click here for link.


• Authors investigated the irradiation variable for ACL reconstruction in a clinical study involving 102 patients with an average follow-up of 4.2 years. The study found that not only is using 2.5 Mrad of gamma irradiation on LifeNet Health BPTB allografts effective in eliminating bacteria, but it did not apparently compromise the clinical effectiveness of the grafts. The authors concluded “These data suggest that irradiation can be used to sterilize BPTB allograft without adversely affecting clinical outcome.” Click here for link.


• Authors compared AP knee laxity between BTB allograft and autograft ACLR. Retrospective review of 98 patients (31 autograft and 65 LifeNet Health allograft BTB tendons) by a single surgeon with an average follow up of 3.5 years were included. There were no significant differences in graft type in outcome scores or laxity. Click here for link.


• Data from 75 patients with an average follow-up of 24 months were obtained. Average donor age was 44 years (range, 14-65 years) and average patient age was 37 years (range, 18-60 years). Statistical analysis of pre- and postoperative Lysholm scores demonstrated statistically significant improvement (P<0.05). Using donor age as a continuous variable, no effect was found on postoperative improvement in Lysholm score or Tegner score (P=0.6). Click here for link.

Representative Clinical Reports Using LifeNet Health Allograft Bio-Implants in Sports Medicine Procedures


• Investigators compared the effectiveness of allografts and autografts in ACL reconstruction. The authors conclude that there is much data regarding the choice to use either allograft or autograft tendons for ACL reconstruction. While the “gold standard” designation given to the BTPT autograft is a commonly stated advantage by some literature sources, more surgeons using allografts are reporting equivalent results to autografts. As surgeons gain confidence with these reports and the results of their own patients, allografts have become an acceptable and even desirable option to autograft tissue for ACL reconstruction procedures. Click here for link.


• Investigators used LifeNet Health Achilles tendon allografts for anterior cruciate ligament (ACL) reconstruction in 12 patients over 24 months. Notably, gross and light microscopic examination showed similar histologic findings as a normal ACL by 12 months incorporation. Click here for link.


• Authors present a case study of a 15 year chronic distal biceps tendon rupture that was repaired utilizing an allograft Achilles from LifeNet Health. Patient has regained full function of the extremity and returned to work without limitations by 12 months post-op. Click here for link.


• Investigators used LifeNet Health irradiated Achilles tendons and bone patellar-tendon-bone (BPTB) allografts in a retrospective, cohort study consisting of 47 patients with dislocated knees. In patients needing graft replacement, the Achilles tendons were used to replace PCLs and BTBs were used to reconstruct ACLs. The authors reported satisfactory clinical success with a 2-6 year follow-up. Click here for link.

Sekiya, J.K. and Kurtz, C.A. “Posterolateral corner reconstruction of the knee: surgical technique utilizing a bifid Achilles tendon allograft and a double femoral tunnel.” Arthroscopy. 2005; 21(14):1400-

• Investigators used LifeNet Health Achilles tendon allografts for posterolateral knee corner reconstruction in a technique article. They concluded that “a single allograft is sufficient to reconstruct all three key structures of the posterolateral corner: the LCL, popliteus tendon and the popliteofibular ligament.” Click here for link.


• Investigators described their technique for PCL reconstruction using LifeNet Health whole patellar tendon allografts. The authors “believe the advantages of allograft, including less morbidity, outweigh the disadvantages.” Click here for link.


• Investigators used LifeNet Health Achilles allografts in the Darrach procedure with an average of 26 months follow-up. Three of four patients exhibited success, and the authors were supportive of using Achilles tendons for future cases. Click here for link.

Biomechanical or Literature Reports Using LifeNet Health FlexiGraft Sports Medicine Tendons and Ligaments


• Authors found no difference in the biomechanical properties between pre-processed and post-processed tendons using Allowash technology. Click here for link.

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Human Clinical Reports Using LifeNet Health FlexiGraft Sports Medicine Tendons and Ligaments

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- Authors reviewed numerous biomechanical and clinical studies supporting the use of controlled, low temperature irradiation of allograft tendons. Authors conclude that “As reviewed here, numerous biomechanical and clinical studies support the use of controlled, low temperature irradiation of allograft tendons, to provide both excellent clinical results and medical-device grade sterile allografts with minimal risk of disease transmission.” [68-20-021.00] Click here for link.


- Authors examined effect of donor age on the structural and mechanical properties of subsequent tibialis tendons. They conclude that even though differences were observed between age groups, they were relatively small and most likely not clinically relevant. “The age of the donor will not likely affect the suitability of a graft for use in surgical reconstruction.” Click here for link.


- Authors evaluated the biomechanical properties of LifeNet Health tibialis tendons based on donor age. They conclude that “Donor age up to 65 years does not significantly affect the initial failure load, stiffness, or displacement at failure of tibialis allografts. An age-related decrease in failure stress was observed among no irradiated tendons but not in tendons subjected to irradiation.” Click here for link.


- Investigators studied the mechanical properties of bone and soft tissue allografts irradiated on dry ice at a low absorbed dose and a moderate absorbed dose using conventional compressive and tensile testing. The results support use of low dose and moderate dose gamma irradiation of bone grafts; however, results support use of only low dose irradiation on soft tissue grafts. Click here for link.


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- LifeNet Health white paper summarizes available literature and LifeNet Health biomechanical studies supporting the use of Peroneus longus and posterior tibiais for knee reconstruction. Click here for link.


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- This paper summarizes the findings of various biomechanical studies available in the literature and though LifeNet Health data, “This paper summarizes some mechanical and chemical findings supporting the use of gamma irradiation. Available upon request.”


- Author concludes that “the Allowash XG process does not adversely affect the biomechanical or biochemical properties of tissues needed for the intended clinical application.” Available upon request.


- This paper summarizes some mechanical and chemical findings supporting the use of gamma irradiation. Available upon request.
LifeNet Health helps to save lives, restore health and give hope to thousands of patients each year. We are the world’s most trusted provider of transplant solutions, from organ procurement to new innovations in bio-implant technologies and cellular therapies—a leader in the field of regenerative medicine, while always honoring the donors and healthcare professionals that allow the healing process.

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