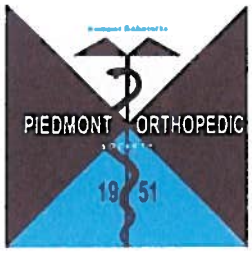


ABSTRACTS PRESENTED AT THE

61st ANNUAL PIEDMONT ORTHOPEDIC SOCIETY MEETING

May 1 - 5, 2013

The Cloister – Sea Island, Georgia

INJURIES TO NCAA FOOT KICKERS, Jacob B. "Jake" Cordover, Andrew Cordover, MD, Andrews Sports Medicine and Orthopaedic Center, Birmingham, Alabama.

An online survey was designed and emailed to 850 collegiate football teams to examine injuries to field goal kickers, kickoff specialist, and punters. Data were analyzed using statistical analysis methods with an emphasis on position, type of injury, location of injury, activity at time of injury, and time missed from play. Lower extremity injuries were the predominant injuries suffered by kickers at the collegiate level. The results of this study may be used to develop and implement preventive measures in an effort to minimize these kicking injuries.

PROTON THERAPY FOR PROSTATE CANCER: WHY AND WHAT ORTHOPAEDIC SURGEONS NEED TO KNOW ABOUT IT, J. Ollie Edmunds, MD, Professor of Orthopaedic Surgery, Tulane University School of Medicine, New Orleans, Louisiana; Andrew K. Lee, MD, MPH, Associate Professor, Radiation Oncology, MD Anderson Cancer Center, University of Texas, Houston, Texas.

Most orthopaedic surgeons are unfamiliar with proton therapy or the difference between proton radiation and photon (x-ray) radiation. After they perform a total hip replacement or metallic hip implant their patient cannot have proton therapy for prostate cancer because the protons must pass exclusively through the hips and are blocked by metal. Proton therapy is a sophisticated and expensive technology with growing demand and limited supply. In proton therapy heavy protons are accelerated to almost the speed of light in a synchrotron (particle accelerator) down a magnetic beam the length of a football field to radiate cancers. Proton therapy is a remarkably safe and effective treatment for prostate cancer, the most common cancer in men, although treatment superiority has yet to be proven in randomized studies. There are currently only 10 proton centers in the United States.

THE EFFECT OF EVOLVING TECHNIQUE ON OUTCOME AND LIMB ALIGNMENT IN TOTAL KNEE ARTHROPLASTY, Robert Friedman, MD, Orthopaedic Associates of the Greater Lehigh Valley, Phillipsburg, New Jersey.

From 2004-2011 I instituted a series of changes in my technique and evaluated their effect on outcome and limb alignment. The changes include using a mini-incision vastus splitting technique, adding computer assisted navigation, switching to patient matched instrumentation. Four groups of 25 consecutive patients were analyzed by chart review and x-ray evaluation. Functionally, 88% of patients had greater than 90 degrees of flexion by discharge vs. only 18% before implementing changes. Most patients were able to be discharged home instead of a facility (92% vs. 18). Less pain pills were required and limb alignment improved, decreasing outlier from 44 to 18%.

THE CORACOID CORTICAL RING SIGN: AN ANATOMIC AND CLINICAL STUDY OF PERCUTANEOUS CORACOCLAVICULAR FIXATION, Grant Garrigues, MD, Piedmont Grant Winner, Duke University Medical Center, Durham, North Carolina.

Cadaveric shoulders (11) were used to define a radiographic view of the coracoid base for fluoroscopic targeting of coracoclavicular (CC) fixation, and to determine the proximity of nearby neurovascular structures.[1] Additionally, we used this technique clinically (41 patients) for targeting CC fixation using a percutaneous approach.[2] 98% had a good/excellent result. The author's current preferred treatment method of acute, high-grade AC joint injuries with arthroscopic and fluoroscopic was demonstrated.

1. Garrigues GE, Marchant M Jr, Lewis G, Gupta A, Richard M, Basamania J. *The Cortical Ring Sign: A Reliable Radiographic Landmark for Percutaneous Coracoclavicular Fixation,* Journal of Shoulder and Elbow Surgery, 19(1):121-9, 2010.
2. Garrigues GE, Lewis G, Gupta A, Singh A, Marchant M, Richard M, Higgins L, Basamania C. *Clinical Results of Percutaneous Acromioclavicular Screw Placement,* Shoulder and Elbow, Shoulder and Elbow, 3:88-94, 2011.

PROXIMAL HUMERUS FRACTURES: KNOW YOUR OPTIONS, Grant Garrigues, MD, James Kelley Award Winner, Duke University Medical Center, Durham, North Carolina.

A discussion of current evaluation and management of proximal humerus fractures. Treatment options span the range from closed treatment, percutaneous pinning, ORIF with plate or intramedullary nail, hemiarthroplasty, to reverse total shoulder arthroplasty. Indications and illustrative case examples for each technique were presented.

IMMUNE MEDIATORS OF POST TRAUMATIC ARTHRITIS: OPPORTUNITY FOR INTERVENTION?, Phillip H. Horne, MD, Duke University Medical Center, Durham, North Carolina.

Post traumatic arthritis (PTA) comprises a notable percentage of symptomatic arthropathy, often in younger patients without effective treatment options. Recent studies have highlighted contributions of both mechanical and inflammatory factors in the onset of PTA. Specifically, Interleukin-1 cytokine has been linked in animal studies to directly influence onset of PTA.

TITLE THUMB CARPOMETACARPAL FUSION WITH DISTAL SCAPHOID EXCISION A NOVEL PROCEDURE FOR PANTRAPEZIAL ARTHRITS IN THE HIGH DEMAND HAND. A CLINICAL AND BIOMECHANICAL STUDY, Gary M Lourie MD, Scott Tanaka MD, James Marino MD, Charles Haddad MD, The Hand and Upper Extremity Center of Georgia Office, Atlanta, Georgia.

Hypothesis

Thumb CMC fusion combined with distal scaphoid excision improves range of motion compared to fusion alone. This procedure may prove advantageous in the high demand pantrapezial arthritic thumb.

Methods

Thirteen fresh-frozen cadaveric specimens underwent fluoroscopic evaluation in the PA plane with the thumb in radial abduction and adduction. In the lateral plane thumb palmar abduction and adduction was measured. A trapeziometacarpal fusion was simulated by passing two 1.6 mm K-wires across the joint. The same four fluoroscopic images were taken after the fusion. The distal scaphoid was then excised and the four same images obtained. The angle between the index and thumb metacarpal was recorded. Eight patients all deemed high demand with pantrapezial disease underwent the procedure to prevent postop subsidence seen in conventional arthroplasty. Outcome measures included subjective assessment along with pre and post ROM, pinch, and grip.

Results

The mean arcs of motion in the PA plane pre-fusion, post-fusion, and post-fusion with distal scaphoid excision were 48.5, 25.1, and 34.6 degrees respectively. An increase in arc of motion of 9.5 degrees ($p=0.0002$) was obtained after distal scaphoid excision compared to thumb CMC fusion alone. In the lateral plane, the mean arcs of motion pre-fusion, post-fusion, and post-fusion with distal scaphoid excision were 53.4, 22.4, and 33.6 degrees respectively. A statistically significant increase in arc of motion of 11.2 degrees ($p=0.0005$) in the lateral plane was obtained after distal scaphoid excision compared to thumb CMC fusion alone. This was a 20% ($p=0.0002$) and 21% ($p=0.0005$) increase in ROM in the PA and lateral planes respectively from fusion alone

compared to adding distal scaphoid excision. All 8 patients healed uneventfully, showed no radiographic subsidence, achieved pain relief and on objective evaluation demonstrated improved pinch and grip, ROM, and were able to flatten the palm without problem.

Summary

An increase in ROM in both the PA and lateral plane was observed after distal scaphoid excision compared to CMC fusion alone in this cadaveric biomechanical study.

Although thumb CMC fusion provides symptomatic relief, ROM is significantly limited. Patients are often unable to place their palm flat on a table post fusion.

Distal scaphoid excision improves ROM and addresses the STT joint in patients with pantrapezial arthritis while maintaining the potential benefits of improved strength and decreased risk of subsidence in the younger, high demand patient.

CHRONIC EXERTIONAL COMPARTMENT SYNDROME (CECS) ABSTRACT, Angus M. McBryde, Jr., MD, USC School of Medicine, Columbia, South Carolina.

Exertional compartment syndrome constitutes almost 1% (0.7 of 1000 running injuries) of injuries in leg based sport. Causative physiology is multifactorial. Ultimately the specific muscle compartment(s) involved limits muscle and fascia content. Symptoms of motor shutdown begin to occur with pain and weakness. Diagnosis is made from history, exam and provocative or challenge testing. Competent pressure measurements are traditional but protocols and results are often inexact or equivocal.

The second provocative test involves a simple calf sleeve (produced by many soft goods providers). When the device is applied there is "preload" of the compartment(s) of the leg. Theoretically and actually the resting compartment pressure rises. The suitable protocol and its interpretation follow. The onset of symptoms is earlier, unequivocal and reproducible. Unilateral and bilateral protocol differs.

General guidelines for usage of the calf sleeve include considerations of wear timing for the test, training variables, and as much sports specificity as possible. Unilateral testing/challenge should be repeated twice. For example, if the runner's symptoms using the calf sleeve protocol begin at one mile instead of three miles then two repeats are indicated for more confidence.

This concept is an easy call in terms of simplicity, device availability, cost, the noninvasive technique, and the patient involvement. It is more than anecdotal. Personal testimony is being gathered from ~40 patients in 6 sports medicine locations who have undergone this protocol in the last 30 years. Two video clips serve as examples. Both are men with 5 compartment bilateral involvement and curative surgery.

REVISION INSTABILITY SURGERY OF THE SHOULDER: WHY AND HOW?!, CT Moorman, III MD, Patrick Siparsky, MD, Duke University Medical Center, Durham, North Carolina.

Recurrent Instability following stabilization surgery of the shoulder is a difficult and multifaceted problem. Analysis of the cause of failure often centers on two primary underlying causes: 1. Mechanical Failure; and 2. Biologic Failure. The most common cause of mechanical failure is unrecognized or poorly addressed bony deficiency. Recent information suggests that bony deformity on the glenoid side can be treated with standard arthroscopic labral repair if the deficit is less than 10%. For bony loss of 11-25% consideration is made to bony augmentation in the case of a bipolar lesion (humeral head as well) or in a higher demand athlete. For bony loss greater than 25% bony augmentation is generally mandatory with Latarjet (coracoid transfer) or allo/autograft bony addition options. For engaging Hill-Sachs lesions the Remplissage procedure has been recommended and our track record at Duke encouraging with this method. Biologic failure generally centers on collagen disorders and is generally best managed with open surgery and consideration of tissue augmentation. Techniques for repair/reconstruction were demonstrated.

ADHESIVE CAPSULITIS OF THE SHOULDER IN DIABETIC PATIENTS, Richard J. Nasca MD, Wilmington, North Carolina.

Twelve diabetics, mean age 52 years, presented with pain and restricted motion of the shoulder. The subacromial space was injected with2-3 cc of 2% Lidocaine and 1 cc of Betamethasone. The average ROM improved to >110 degrees abduction, >140 degrees forward flexion and internal rotation to L3. Subacromial injections coupled with Codman's exercises are effective in treating diabetic adhesive capsulitis.

TALONAVICULAR ARTHRODESIS USING AN INTRA OSSEOUS FIX SYSTEM: A CASE SERIES, Diego H. Zanolli, MD, Department of Orthopaedic Surgery, Duke University Medical Center, Durham, North Carolina; Julie Johnson, MD, Department of Orthopaedic Surgery, Brown University, Providence, Rhode Island; Christopher DiGiovanni, MD, Department of Orthopaedic Surgery, Brown University, Providence, Rhode Island; Selene Parekh, MD, MBA, Department of Orthopaedic Surgery and the Fuqua School of Business, Duke University Medical Center, Durham, North Carolina.

Talonavicular arthrodesis is generally recommended for treating isolated degenerative arthritis and deformities of this joint. Although generally good results have been published in the literature using this technique, nonunion of the talonavicular joint still remains a factor which affects outcome.

We report our first four cases of isolated talonavicular arthrodesis using a novel intraosseous device designed to increase the stability of fixation generated across this joint. The system takes advantage of an intraosseous titanium post introduced into the navicular, through which a lag screw can thereafter be oriented across the talar neck

and body. Surgical exposure can be minimized and compression can be achieved via leverage of the entire navicular rather than through a small medial portion of the tuber, obtaining a stable and rigid construct that facilitates fusion and has been designed to permit early mobilization. The device provides the option of creating either a fixed angle morse taper lock at the post-lag interface, or a polyaxial design capable of greater angular freedom. Pearls with respect to preoperative planning and technique, as well as early results and complications are reviewed.

Keywords: talonavicular, arthritis, arthrodesis, intraosseous device, hindfoot, fusion

EXTENSILE DECOMPRESSION OF THE POSTERIOR TIBIAL NERVE AND ITS BRANCHES COMBINED WITH PARTIAL PLANTAR FASCIA RELEASE IN THE TREATMENT OF CHRONIC PLANTAR HEEL PAIN, William R. Mook, MD, Department of Orthopaedic Surgery, Duke University Medical Center, Durham, NC; Tenaja Gay, PA †Department of Orthopaedic Surgery, Duke University Medical Center, Durham, NC; Selene G. Parekh, MD, MBA, The Fuqua School of Business, Duke University, Durham, NC, Department of Orthopaedic Surgery, Duke University Medical Center, Durham, NC

Background:
Chronic heel pain that is recalcitrant to nonoperative measures is a rare but disabling condition. Numerous operative options have been described with variable outcomes. Open partial plantar fasciotomy with neurolysis of the first branch of the lateral plantar nerve has been described with promising results. There are no reports in the literature of extensile proximal and distal tarsal tunnel release combined with partial plantar fasciotomy in the treatment of chronic heel pain. We present our results.

Methods:
A retrospective chart review was conducted and sixteen heels were identified who underwent extensile decompression of the posterior tibial nerve and partial plantar fascia release. Patients' charts were reviewed and assessed for details of their presenting complaints, physical exam findings, pertinent diagnostic studies, medical history, Visual Analog Scale (VAS) scores for pain, American Orthopaedic Foot and Ankle Society (AOFAS) ankle-hindfoot scores, and complications at time of most recent followup. VAS scores were available for pre- and post- operative comparison.

Results:
Thirteen patients (15 heels) were available for follow up with a mean of 18 months. The mean AOFAS ankle-hindfoot score at time of final followup was 86 ± 12.9 (range, 69 to 100). Ten of 15 heels (67%) had an excellent or good rating at the time of last followup visit. Four of 15 (27%) had fair outcomes. Only one of 15 (7%) reported a poor outcome. The mean VAS pain score changed from 6.3 ± 3.1 to 1.4 ± 1.8. The difference in pre- and post- operative VAS pain score was found to be statistically significant ($p = 0.001$). There was one case of plantar heel numbness which resolved. There was one case of distal lateral plantar nerve numbness affecting the small toe that at eleven postoperative months was unchanged. There were no wound complications or infections.

Conclusion:
Extensile decompression of the posterior tibial nerve and its branches combined with partial plantar fascia release offers another operative option for chronic heel pain that is associated with satisfactory outcomes and rest pain relief. It does not seem to be associated with a higher rate of wound healing problems. Despite reducing pain at rest in all patients, the majority of patients may be left with mild residual symptoms with activity.

DOES SURGICAL APPROACH DURING TOTAL HIP ARTHROPLASTY ALTER GAIT RECOVERY DURING THE FIRST YEAR FOLLOWING SURGERY?, Jordan F. Schaeffer, MD, Duke University Medical Center, Durham, North Carolina.

This study examined the effect of three surgical approaches on postoperative gait mechanics. Thirty patients completed a self-selected speed level walking gait assessment preoperatively, 6 weeks, and 1 year after surgery. We found no difference between approaches 1 year following surgery for any study variable.

REPORT OF THE PIEDMONT SOCIETY SCIENTIFIC COMMITTEE : "A SNAPSHOT OF NEW PATIENTS IN A KENNEBEC COUNTY SPINE SURGERY PRACTICE". "PIEDMONT SOCIETY SURVEY ON QUALITY PARAMETERS IN ORTHOPAEDIC EMPLOYMENT CONTRACTS", David C. Urquia, MD, Augusta Orthopaedic Associates, Augusta, Maine.

We studied patient input data on 119 new adult spine patients for Review-of-systems, social history, medications, smoking, and obesity. These data were analyzed as predictors of surgical outcome and patient satisfaction. Also were reviewed were national health rankings for individual states. We commented on the potential impact of Patient Satisfaction Surveys on physician behavior and compensation.

http://www.worldwide-tax.com/germany/ger_other.asp

Brazil VAT and other taxes | Bulgaria VAT and other taxes | Canada VAT and other taxes | China VAT and other taxes | Cyprus VAT and other taxes | Czech R. VAT and other taxes | Estonia VAT and other taxes | Finland VAT and other taxes | France VAT and other taxes | Germany VAT and other taxes | Greece VAT and other taxes | Hungary VAT and other taxes | India VAT and other taxes | Ireland VAT and other taxes | Israel VAT and other taxes | Italy VAT and other taxes | Japan VAT and other taxes | Latvia VAT and other taxes | Lithuania VAT and other taxes | Malta VAT and other taxes | Mexico VAT and other taxes | Netherlands VAT and other taxes | Poland VAT and other taxes | Portugal VAT and other taxes | Romania VAT and other taxes | Russia VAT and other taxes | Serbia Montenegro VAT and other taxes | Singapore GST and other taxes | Slovakia VAT and other taxes | Slovenia VAT and other taxes | Spain VAT and other taxes | Tunisia VAT and other taxes | Turkey VAT and other taxes | UK VAT and other taxes | Ukraine VAT and other taxes | U.S. Sales taxes

May 2013

Piedmont Orthopedic Society

RE: The update on the Health Care Reform/Obama Care of February 2010

Obama Care passed congress with a 60% plus vote (over of the last 100 years, 60% congressional votes take place about every 11.2 years and have the effect of a constitutional amendment.)

The Supreme Court ruled in May 2012 that the affordable care act is the law of the land but it may face court challenges and now we face funding issues.

The "Lame-duck session of Congress" put a band aid on the fiscal cliff issues.

AARP Bulletin of December 2012 says we should scrap the income tax as the tax code is to complex and the income tax is obsolete with respect to funding Obama Care. Bruce Bartlett the author of the "Benefit and the Burden: Tax Reform – Why We Need It and What It Will Take", in paperback January 2013, says the current tax system taxes less than 50% of the people and taxes few corporations and cannot possibly support Obama Care. Indeed he concludes that the two tax bases that are best suited to the current economic environment are consumption (VAT taxes) and real property tax. If we have a Vat tax, we need to ditch the income tax. Conservatives say they would consider it, but only after the 16th Amendment is repealed.

In Germany the consumption tax or value added tax (VAT):

1. **The standard value added tax in Germany is 19%.**
2. **There is a reduced rate of 7% that relates mainly to food and agriculture products.**
3. **Value added tax is imposed on assets and services in Germany as well as on imports into Germany.**
4. **Oversees exports are exempt from value added tax.**
5. **Value added tax reports must be submitted monthly or quarterly, depending on the annual turnover.**
6. **There are special provisions for small businesses.**

See Website: www.worldwide-tax.com/germany/ger_other.asp

Furthermore, the Vat tax in most countries assumes that the government will provide the pension profit plan and provide the health care plan. (Since 1973 our health care and pension profit sharing plans by business corporations have gone from 88% of all business corporations to roughly 10%.

R.S. Mathews, MD.
First Team Institute, LLC.
Director of policy for health care reform
rsmathewsmd@yahoo.com

What the new law does

2010
- Offers small businesses that choose to provide insurance to employees tax credits of up to 35 percent of premiums (effective immediately)
- Provides rebates up to $250 to seniors paying out-of-pocket drug costs due to the "doughnut hole" gap in Medicare prescription drug coverage (immediately)
- Prohibits insurers from dropping customers when they get sick (effective six months after enactment)
- Prohibits denial of coverage for children with pre-existing conditions (six months)
- Prohibits lifetime caps on insurance payouts to the chronically ill (six months)
- Allows children to remain on parents' insurance plans until age 26 (six months)

2011
- Requires insurers to spend at least 80 percent of premiums on medical services
- Begins phased-in fees and taxes on the health industry, starting with a $2.3 billion annual fee on drug makers

2013
- Imposes an additional 3.8 percent tax on investment income, and a 0.9 percent Medicare tax, on families with annual incomes above $250,000

2014
- Imposes an individual mandate—enforced by escalating fines starting at 1 percent of income—requiring most uninsured Americans to purchase insurance
- Provides subsidies to individuals and families with incomes up to 400 percent above the poverty line ($88,200 for a family of four) to help them buy health insurance
- Expands eligibility for Medicaid to anyone earning up to 133 percent of the poverty level—about $29,300 for a family of four
- Requires most employers to provide coverage to employees or pay penalties
- Prohibits denial of coverage of anyone with a pre-existing condition
- Establishes health-insurance exchanges to serve as a competitive insurance market, enabling those without employer-based insurance to shop for coverage

2018
- Imposes excise tax on "Cadillac" employer-provided health plans valued at more than $27,500 (family) or more than $10,200 (single)
- Completes multiyear expansion of health insurance to 32 million citizens.

Unemployment? | Left Behind | We Should Scrap The Income Tax
AARP Bulletin
YOUR HEALTH · YOUR MONEY · YOUR WORLD

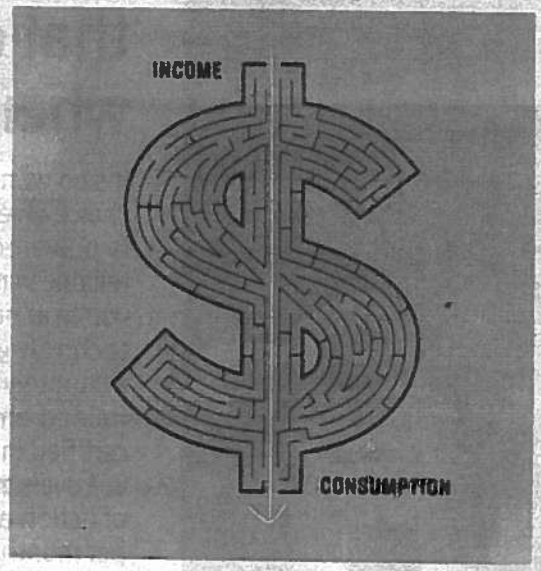
The tax code is too complex, and the income tax is obsolete

What Tax Reform Will Look Like

By Bruce Bartlett

The tax code is incomprehensible to the vast majority of Americans. This is hardly surprising. Equally incomprehensible are the workings of autos, telephones, televisions, computers and many other machines and devices we use every day. If something goes wrong with any of these machines, we simply consult a specialist to fix them or teach us how to use them.

The real problem with the tax code is that its specialists—accountants and tax lawyers—are as baffled as the rest of us about what certain key aspects of it mean anymore. For example, the seemingly simple term "income" has become extraordinarily difficult to define for tax purposes.



In the days when most people had only two sources of income—wages or pensions—figuring out how it should be taxed was easy. But today, millions of people have untaxable income inside individual retirement accounts or 401(k)s; they have income that is exempt from taxation in the form of employer-provided health benefits and interest on municipal bonds; and they have income such as dividends or capital gains that is taxed very differently from wages or business income.

And the corporate side of the tax code is virtually unadministrable. The tax departments of major corporations such as GE have become profit centers and find more and more creative ways to legally avoid paying any taxes at all. The result, inevitably, is higher federal deficits or higher taxes on individuals less adept at tax avoidance.

Clearly, a key problem with the tax code is conceptual, and it has to do with what constitutes the tax base. This is not a problem that can be fixed by redesigning tax forms or providing clearer instructions—although those measures would help. It requires a deep rethinking of the nature of taxation. For 100 years, taxation has been based on income.

Today, income is just too slippery a concept to form the basis of taxation. It is too mobile, too hard to locate geographically, too easily redefined into different forms or masked in various financial structures. Instead, taxes inevitably have to fall more heavily on things that are easier to define and locate, and that are unable to escape the tax collector.

The two tax bases that are best suited to the current economic environment are consumption and real property. The bulk of consumption consists of services that cannot be outsourced or automated; you can't go to China for a haircut. And of course land and buildings can easily be located and taxed.

The problem requires a deep rethinking of the nature of taxation.

Moving from an income tax system to one based on consumption and property will be painful, complicated, difficult, politically contentious and time-consuming. It will probably take decades. But unless tax specialists—the theorists and administrators and experts—make some breakthrough in figuring out how to make the income tax work equitably and raise enough revenue to pay the government's bills, this sort of tax reform appears inevitable. □

Bruce Bartlett *is the author of* The Benefit and the Burden: Tax Reform—Why We Need It and What It Will Take, *published earlier this year by Simon & Schuster. A paperback edition will be available in January.*

The End

BOOK EXCERPT