Agenda

• Overview of Soft tissue injuries
• Why the problem exists
• The EFA
• Sample EFA Results.
• Open Discussion.
Clinical Overview & Solution

- $200 billion annually in lost man-hours and medical costs
- Workers’ Compensation costs exceed $60 billion per year
- Soft tissue injuries are 80% of all Workers’ Comp claims
- Soft tissue injuries often non-specific; difficult to diagnose and treat
- Soft tissue injuries leading cause of lost work time and productivity
Solution - Electrodiagnostic Functional Assessment

• Currently, diagnostics subjective- can be a “process of elimination”
• EFA can pinpoint/identify, detect, age the pathology
• The EFA assessment can offer site-specific treatment regimes
Why the misdiagnosis?

• Current tools not designed to look at soft tissue injuries.
• NCV and iEMG are designed to evaluate nerve and muscle status.
• X-rays, MRI’s and CT scans are not designed to be dynamic or to assess muscle functioning.
• Diagnostics is dependent upon “subjective” complaints.
Subjective?

“MRI’s produce a 64% false positive - Myelograms 24%; Computed Tomographic scans 36%, Discograms 37%; contributing to increasing rates of low back surgery”

Jensen, Brant & Ross et al
University of Pittsburgh
NEJM Vol 331‘1997
Electrodiagnostic Functional Assessment

- The EFA was developed as an alternative to the FCE.
- Supports other diagnostic tests such as the MRI or iEMG.

“The EFA represents a new standard of soft-tissue evaluation that addresses both the accurate diagnosis and compensability of injuries, thus enabling employers to recapture and control these runaway costs”
EFA Key Benefits

• Patient Receives Appropriate Diagnosis.
• Patient Receives Appropriate Care.
• Avoidance of Unnecessary Expense.
• Patient Recovers more quickly and Returns to Work.
EFA Technology

- The EFA is a medical/legal evaluation using our proprietary equipment and service protocol for diagnosing and assessing soft tissue injuries
- Determines the precise location of injury providing site-specific treatment recommendations to assist the physician
- Accurately diagnoses and determines the approximate age of an injury, and determines the significance of disc pathology
EFA Technology

- Determines if patient is compliant, malingering or in pain
- Is non-invasive and non-loading
- Enhanced litigation process in both State and Federal courts
Electrodiagnostic Functional Assessment

• Diagnostic Testing Regimen
  – FCE included as one component
  – Combines/enhances historically proven test methods
  – Dynamic testing that enhances static tests such as MRI, EMG, NCV

• Comprehensive Medical Reports by Board Certified Physicians
EFA Technology

• FDA Registration – Class II Medical Device Diagnostic EMG.

• Combines all five AMA accepted diagnostic tests into one comprehensive, objective and repeatable test:
  – Electromyography (EMG)
  – Range of Motion
  – Functional Capacity Evaluation
  – Pinch Strength
  – Grip Strength
What Kinds of Cases are Best Addressed by an EFA?

• Worker’s Comp and Liability Cases dealing with soft tissue complaints.
  – Backs
  – Shoulders
  – CTS
  – Neck
• Post Offer Pre Placement.
## EFA Referral Triggers

<table>
<thead>
<tr>
<th>Condition</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Pre-Op Necks and Back</td>
<td>If Surgery is questionable</td>
</tr>
<tr>
<td>All Pre-Op Carpal Tunnel Syndrome</td>
<td>If Surgery is questionable or provider RX for EMG</td>
</tr>
<tr>
<td>All Pre-Op Thoracic Outlet Syndrome</td>
<td>If Surgery is questionable</td>
</tr>
<tr>
<td>All Pre-Op Ulnar Nerve Surgery</td>
<td>If Surgery is questionable</td>
</tr>
<tr>
<td>Reflex Sympathetic Dystrophy (RSD)</td>
<td>Upon Diagnosis</td>
</tr>
<tr>
<td>Fibromyalgia/Myofascial Pain</td>
<td>Upon Diagnosis</td>
</tr>
<tr>
<td>Chronic Fatigue Syndrome</td>
<td>Upon Diagnosis</td>
</tr>
<tr>
<td>Claims with No Formal Diagnosis</td>
<td>After Six Weeks</td>
</tr>
<tr>
<td>Recurrent Soft Tissue Claims</td>
<td>At the Onset of Newest Claim</td>
</tr>
<tr>
<td>Pre Or With Rating Examination (applicable states)</td>
<td>In Claim Specialist Review</td>
</tr>
<tr>
<td>Pre or With IME/QME</td>
<td>In Claim Specialist Review</td>
</tr>
</tbody>
</table>
Equipment
Sample Graphs
Principles of the EFA

• 6 channels of range of motion while measuring EMG:
  — Flexion
  — Extension
  — Rotation
  — Lateral movements of patient.

• Conforms with AMA Guidelines (5th Edition)
Principles of the EFA (con’t)

“through the concurrent mapping of many co-active muscle and muscle group activity - sEMG as a measure of back function can distinguish individuals with and without LBP with an accuracy of 90% ”

-- Roy, DeLuca & Emley et al
Rogers Memorial Hospital Bedford MA
JRRD Vol 34 No 4 ‘1997
Principles of the EFA (con’t)

• Gripping Assessment (Jamar) measures patient gripping capability while measuring EMG.

“A correlation of 90% was found using sEMG readings to predict the relative force exerted during JAMAR dynamometer readings” - “therefore this method can improve in validity of field testing”

-- Dugue, Masset & Malchaire
University of Lonvein - Brussels, Belgium
IH&P Vol 3038 ‘1995
Principles of the EFA (con’t)

• Bilateral test performed for comparison
• Broad-band frequency range and refined electronics
• Test is non-invasive, non-loading, repeatable, objective
• Tests muscle tone, spasms, usage, fatigue and ischemic changes
• Lead Fail detection
Addressing Compliance

By integrating range of motion and functional capabilities while simultaneously assessing muscle activity, the EFA can objectively ascertain a patient’s effort.
Readout shows Difference Between Proper (top) and Improper (bottom) Recruitment of Type 2 Motor Units.
Can you tell which is which?

A. Compliant
B. Malingering.
C. Pain
Compliant

The correct muscle groups used and appropriate recruitment of type II motor units
Malingering
Inappropriate muscle usage and no recruitment of type II motor units
Pain

Appropriate muscle usage and limited type II motor unit recruitment
How do we date an injury?

• Distinguishing between acute versus chronic injuries.
  – Bilateral changes
  – Muscle compensation
  – Muscle spasms
  – Fatigue
  – Usage
  – Absence of the flexion relaxation response.
EFA Report

- Correlates subjective complaints of patient with objective findings of the test
- Confirms current injury diagnosis or renders proper diagnosis
- Reviews medical records
- Correlates to validate mechanics of injury
- Findings and recommendations including FCE
Referred Pain From Non-Radicular Cervical Involvement
CTS Claim

• Employer- Sam & Ella’s Seafood Processing
• DOI- 2/6/01
• EFA Date- 5/2/01
• Pre-EFA Dx- Carpal Tunnel Syndrome
• EFA Findings- No CTS, chronic cervical pathology not related to or aggravated by employment
• Results- Prevented unnecessary surgery, closed claim
CTS -- Case Summary

Chronic cervical condition:
• Unrelated to the work exposure.
• Increased left-side pathology inconsistent with complaint.
• Short-term PT ordered as recommended by EFA.
• Patient can continue working.
Lumbosacral -- Case Summary

Chronic lumbosacral condition:
- Patient was non-compliant.
- EFA found patient would be at MMI with impairment rating of 7%.
- Prophylactic work restrictions recommended.
- Physician agreed, deemed patient at MMI with return to work.
Lumbosacral -- Case Summary

Lumbosacral:

• Patient pending multilevel back surgery.
• EFA found not a surgical candidate.
• Patient ordered to PT
• Back to restricted work.
Litigation Support

• Meets Daubert requirements
• Because non-loading/non-invasive can secure Orders to Compel
• IDI’s expert witnesses proven in court where EFA was major or sole evidence in multi-million dollar claims from the federal level down:
  – U.S. District Court, Civil: Motion to Compel as part of sanctions. Evaluation proved patient had use of injured side. Defense zero dollar verdict.
  – Texas Worker’s Comp Commission, case 14xxxx: EFA aged injury to predate employment
Litigation Support (con’t)

Federal Register EFA Findings Testimony:

• [Ms. Geressy's] ... carpal tunnel like symptoms are related to hypertonicity in the cervical region. . . . causal relationship to the symptoms ... are non work related in nature . . . . from the cervical region and ... non industrial in nature.

Litigation support (con’t)

Federal Register EFA Findings Testimony:

• We saw no evidence of any cumulative trauma disorder or any injury due to repetitive motion.

• We concluded that she did not have carpal tunnel syndrome but that her complaints were caused by pathology in her cervical musculature.

• Based on our examination we concluded that her health complaints were not caused by her work.
Litigation support (con’t)

• **Substantial Probability of a Change in the Outcome at Trial:**
  
  – This newly discovered evidence is unique and directly relevant to the critical issue of causation. It is substantially probable that this medical report, created almost a year before the litigation was filed would have caused the jury to evaluate all of the evidence at trial differently.
  
  – The outcome at trial could well have been different if this evidence had been available.

• Jack B. Weinstein, Senior United States District Judge.
Value of the EFA to Clients

• Quicker resolution to claims.
• Avoidance of unnecessary surgeries.
• Reduced employee lost work days.
• Less reserve dollars spent on lengthy treatments.
• Objective post injury assessment that’s repeatable.
St. Paul Travelers Results

Methodology:

• EFA claim numbers were tracked as consults were performed.
• A control group was obtained by matching claims from the Managed Care Database using
• ICD-9 code (3 digit), SIC (2 digit), Attorney Involvement, Age (+/- 2 years), and Gender.
St. Paul Travelers Results (cont)

RTW days comparison:
- 275 Control group to 213 EFA

<table>
<thead>
<tr>
<th></th>
<th>Control</th>
<th>EFA</th>
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</thead>
<tbody>
<tr>
<td>Paid Claims</td>
<td>$16,437</td>
<td>$12,598</td>
</tr>
<tr>
<td>Paid Med</td>
<td>$17,524</td>
<td>$13,265</td>
</tr>
<tr>
<td>Paid Expense</td>
<td>$5,481</td>
<td>$4,047</td>
</tr>
<tr>
<td>Total Incurred</td>
<td>$39,442</td>
<td>$29,910</td>
</tr>
</tbody>
</table>
St Paul Travelers Results (cont)

Conclusion:

• While the EFA group was comprised of older individuals and proportionally more males, the totals paid on the EFA claims were nearly $10,000 less on these claims.

• With an average of 62 days sooner RTW
EFA Process

• Complimentary case review to see if cases meet our guidelines.
• Early involvement of IDI in the case management cycle to ensure accurate diagnosis and treatment.
• Our representatives will review live open cases or any available loss runs.
• **Online Referral** -- No Phones, No Waiting!
  Go To [www.insightdx.com](http://www.insightdx.com)
How do we resolve 95% of a company’s open claims?

• There is no other way to objectively diagnose soft tissue injuries, without the EFA.
• We can age the injury and outline site-specific treatment in order to resolve claims that have never before been accurately diagnosed.
Summary

The EFA ...  

- Is the only diagnostic tool that can age and diagnose soft-tissue injuries.  
- Addresses both diagnosis and treatment.  
- Is non-invasive and non-loading.  
- Objectifies compliance, malingering and pain.  
- Is reproducible.  
- Meets rigorous legal standards.  
- Complies with ACOEM, AMA.
The Equipment in use
Thank You