



## **Musculoskeletal related costs represent approximately 20% of all healthcare spending in the US annually.**

Compared to the training for other health conditions, musculoskeletal training consistently lags behind all other medical disciplines. This lack of knowledge and training in the assessment of musculoskeletal conditions leads to a high rate of misdiagnoses and inconsistent, often poorly matched, treatment options. Over the last ten years, these inconsistencies have contributed to a large increase in unnecessary invasive procedures and diagnostics, such as MRIs, injections, surgeries, and opioid prescriptions.

**2020** | **REDUCING**  
INCIDENCE | PREVALENCE | COST  
**MUSCULOSKELETAL DISORDERS**



Musculoskeletal disorders are the number one cause of chronic disability in the U.S., and 90% of the world's population will suffer a musculoskeletal disorder at some point in their lives.

The World Health Organization has named lower back pain the number one chronic disease worldwide. It is no wonder that the musculoskeletal cost burden drains over half a trillion dollars in corporate, government, and patient healthcare costs and represents a top three expenditure for Fortune 500 employers.



# The Clinical Gap

“Specifically, nearly half of American medical schools allow their students to graduate without having had any formal training—clinical or basic science—in musculoskeletal medicine.”

DiCaprio M., Covey A., Curricular Requirements for Musculoskeletal Medicine in American Medical Schools The Journal of Bone & Joint Surgery, Volume 85-a, number 3, March 2003

“Many current studies have shown that recently graduated medical students and residents lack the clinical knowledge and confidence necessary to care for patients with MSK injuries.”

Truntzer J., Lynch A., Musculoskeletal education: An Assessment of The Clinical Confidence of Medical Students, Perspectives on Medical Education, 2014 June;3 (3), 238-244.

To effectively improve patient outcomes and increase healthcare value, we must fill the critical gaps in the education and training of primary care physicians, specialists and conservative care clinicians.

With over 60% of musculoskeletal care beginning at the primary care level, it is imperative to take existing primary care providers and optimize their capabilities in the assessment and care of MSDs. This improved ability to determine the most efficacious care approach creates value for all stakeholders in the continuum of care and affords the potential to reduce 25% of musculoskeletal spending.



“Much of clinical medicine remains empirical, and everyday practice is characterized by wide variations that have no basis in clinical science.”

John E Wennberg, British Medical Journal, 2002 Oct. 26; 325(7370): 961-964

“Patients served by even the best academic centers (teaching hospitals) experience unwarranted variations in health care and health outcomes.”

John E Wennberg, British Medical Journal, 2002 Oct. 26; 325(7370): 961-964

“The greatest challenge to the value of physical therapy is unwarranted variation—situations in which wide variation of care is not explained by the type or severity of the condition or by patient preferences. Clinical practice today is “chaotic.”

Tara Jo Manal, PT, DPT, FAPTA, 22nd John H. P. Maley Lecture to the APTA, June 26, 2017

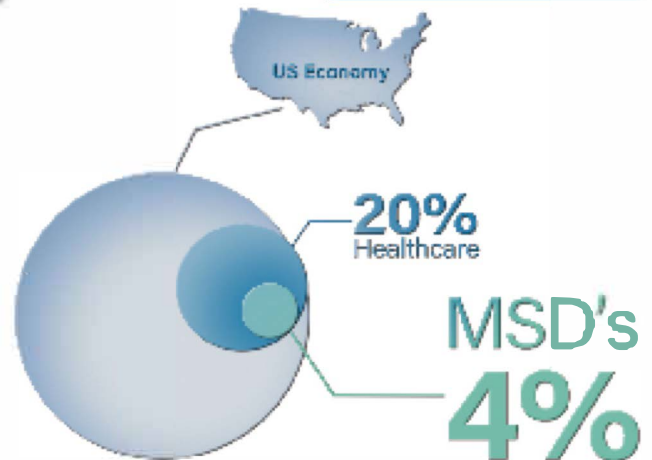
# Consider the Burden

**80%**  
Of Occupational Health Costs  
Are Musculoskeletal Related

**+50%** One Year  
Recurrence Rate  
**50%** of CT/MRI  
Are False Positive

**40%** of  
MSD's are Misdiagnosed

*\$1700-\$2200  
PMPY or #1 Health  
Plan Spend YOY*



**The negative effects MSDs have on the population are staggering and continue to rise. Orthopedic conditions are a Top-3 cause of chronic disability, both domestically and internationally.**

Over the past decade, the number of individuals who suffer from MSDs has increased by more than 25%, and the percentage is expected to increase with an aging population. MSDs have a significant impact on the development and exacerbation of other health conditions and co-morbidities such as obesity, diabetes, cardiovascular disease, drug addiction, and mental health disorders. Individuals with severe orthopedic pain may also find exercise, hobbies, and other forms of self-care so painful that they are no longer able to engage in these activities. This can lead to weight gain, depression, and other related health concerns. Research shows, musculoskeletal health is so directly related to one's quality of life and overall health, the MSD burden has created an enormous social strain. Logic dictates and the data shows this MSD burden extends well beyond the patient; MSDs have created an economic crisis for organizations the world over.

Research shows MSDs represent 4% of the \$17.3 Trillion Gross US Domestic Prod-

uct (GDP), are a Top-3 expenditure for Fortune-500 employers, often account for more than 20% of Fortune-500 employers' medical expenditures under group health insurance plans, and represent an estimated 80% of Fortune-500 workers' compensation and disability expenditures. At minimum, MSDs in the United States are a \$859 billion health, human performance, and economic challenge for individuals, organizations, and society at large.

IMC's JointStrong program results demonstrate that MSD costs can be reduced by 25% when properly managed across the continuum of care by start with proper triage training at the primary care level, and supported by standardized and quality assured conservative management.

IMC and its affiliates have had continued success across the United States reducing MSD expenditures by upwards of 40% across "lives touched." These remarkable results have led to the **IMC JOINTSTRONG PROGRAM GUARANTEE: 25% REDUCTION IN MSK RELATED COSTS.**

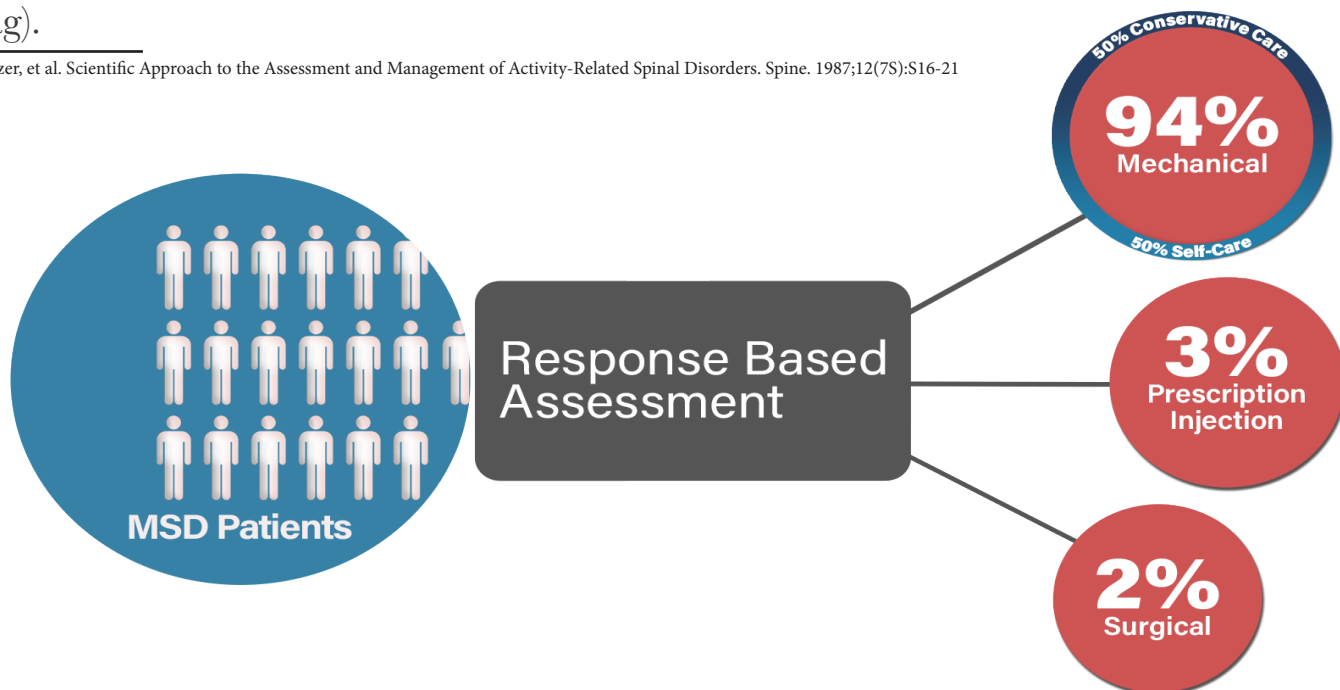
# IMC Clinical Process

**IMC's JointStrong approach to MSD care management matches the patient's condition with the most appropriate treatment. Our highly trained and quality assured JointStrong providers use the individual patient's step-by-step response to systematic, biopsychosocial examination and testing in order to characterize and categorize their MSD condition.**

Most treatment options (injections, surgery, medication, PT/Chiro) for MSDs have a place in the care continuum; however, as in all medical practice, proper patient selection is the key to a successful outcome. A precise diagnosis is necessary, but in musculoskeletal medicine, an inter-tester reliable assessment leading to a valid diagnosis is uncommon. As stated by the Quebec Task Force<sup>1</sup>, "Our inability to make a correct or consistent diagnosis for most LBP creates an immensely important and expensive consequence." Assessment that does not reliably and validly direct successful care leads the patient towards unnecessary, and at times, potentially harmful intervention(s). When treatment fails, the problem consistently falls back into the lap of the primary care physician, who in turn, has little choice but to move the patient laterally or escalate the level of treatment towards more costly diagnostic and invasive services.

The foundation of IMC's JointStrong Triage Program is built on the principles of Mechanical Diagnosis and Therapy (MDT), which has demonstrated excellent inter-tester reliability for clinicians who are well trained. The JointStrong Triage Program utilizes a Response Based Assessment™ (RBA) that allows the clinician to rapidly sub-classify the patient into one of the five management groups (Mechanical, Chemical, Surgical, Behavioral or Red Flag).

1. Spitzer, et al. Scientific Approach to the Assessment and Management of Activity-Related Spinal Disorders. Spine. 1987;12(7S):S16-21





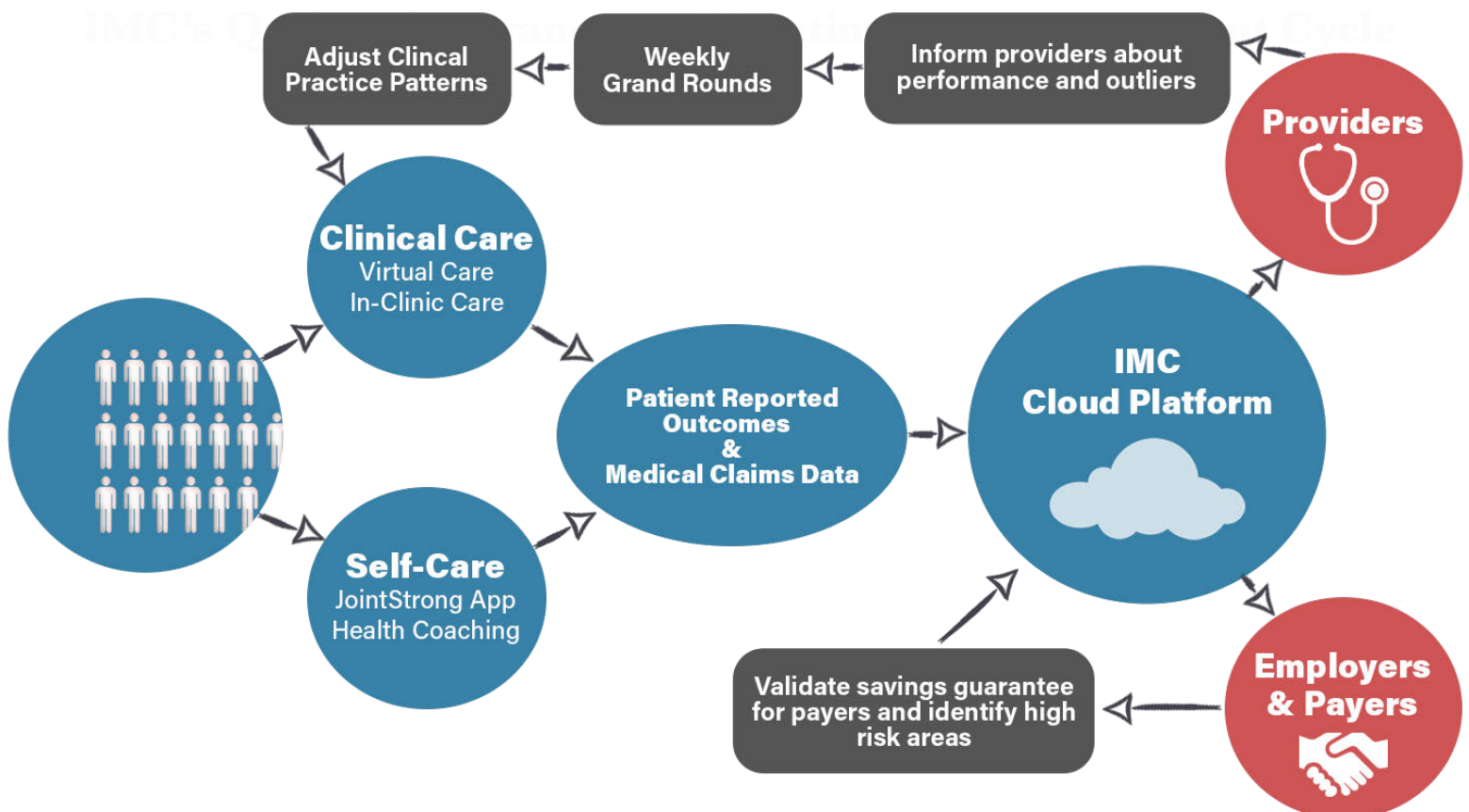
# Quality Assurance

Using proprietary software and advanced algorithms, IMC has developed a quality assurance system that utilizes patient-reported data collected before, during, and after treatment to let providers know where they need to take action.

This information not only allows us to provide better treatment by giving us more insight into each patient, it also affords the ability to track the quality of patient care, monitor progress, measure results across practices, and establish a baseline for condition management.

This data helps IMC determine the effectiveness of our treatments and allows our partners to view the status of their population in real time. Our dashboard allows organizations to view patient case resolution rates, to date cost savings, and identify barriers to resolution within your MSD population.

When a patient does not meet IMC's proprietary benchmarks, they are automatically routed to the IMC "Grand Rounds" process. These escalated cases are reviewed by an IMC Grand Rounds Mentor and team, who provide targeted clinical guidance improving patient outcomes.



# Comprehensive Model

JointStrong® Musculoskeletal (MSK) Programs and Solutions are customized to match the unique needs and profiles of each employer/payer organization. IMC's proprietary strategies create access to high value MSK care while guaranteeing improvements in patient outcomes and reductions in the total cost of MSK care.



**PCP Triage Training** Proprietary training programs to optimize PCP's ability to triage MSK cases. This training is embedded in on-site/near-site or community based practices.



**Conservative Care** Network of highly trained, standardized, and quality assured PT/Chiro located near employer work sites. For employers with concentrated work forces utilizing on-site / near-site or DPC clinics, IMC embeds the JointStrong® provider within the clinic.



**Virtual Care Platform** State-of-Art enabling technology, provides access via Telehealth to the JointStrong national network of credentialed providers.



**Mobile App & Health Coaching** Programmed with the intelligence gathered in over 1 million IMC clinical encounters, The JointStrong® mobile/web app provides users access to a self-assessment module helping them build a treatment plan specific to their condition. Users also have access to a JointStrong® Health Coach, who can assist with treatment plans, answer technical questions or connect them to a virtual/in person JointStrong® provider.



**Prevention & Occupational Health** Utilizing proprietary training programs for employees and triage training for occupational health nurses, IMC prevention programs reduce OSHA 300 recordable events and provide the same highly trained and standardized conservative care providers to manage cases escalated into medical care.

## JointStrong® Step-Therapy

All MSK patients fall into one of the three categories listed below. The JointStrong® Triage Program ensures that patients are placed in the right care category at the right time, effectively reducing unnecessary referrals, procedures and services.

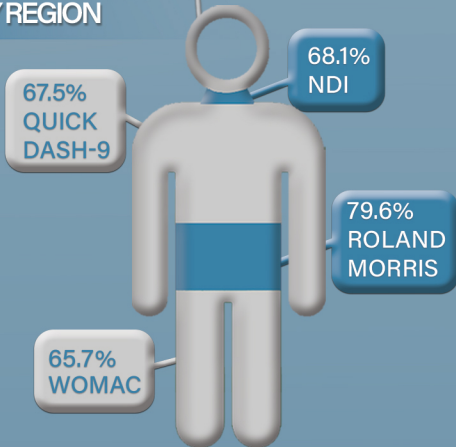
- **Self-Care** 50+% of MSK cases can effectively self-treat and resolve their condition through provider guided, health coach guided or mobile/web app guided self-care protocols. These patients avoid unnecessary escalation into conservative care or specialty care programs, essentially becoming independent of the healthcare system by self managing their MSK condition.
- **Conservative Care** MSK patients unable to manage or resolve their condition with self-care protocols require escalation into conservative care through the JointStrong® clinical network or JointStrong® Virtual Care platform. 40% of MSK patient will require this level of care to resolve their MSK condition.
- **Specialty Care** MSK patients unable to resolve their condition through self-care or conservative care programs require escalation into specialty care. Utilizing IMC's JointStrong Step-Therapy screening process ensures that only patients needing MRI/CT, Pain Management or surgery are escalated to this level of care.



# Improving Healthcare Value: An Employer Case Study

The following outcomes data represents a Fortune 500 employer's 7+ year experience with IMC's JointStrong® Step-Therapy model. Using the gold standard of patient reported outcomes to measure pain, function, and disability, IMC correlates the outcomes with shifts in the total cost of care for MSK lives, validating the investment employers make and providing true healthcare value.

AVERAGE IMC PATIENT IMPROVEMENT BY BODY REGION



## Quality Outcomes

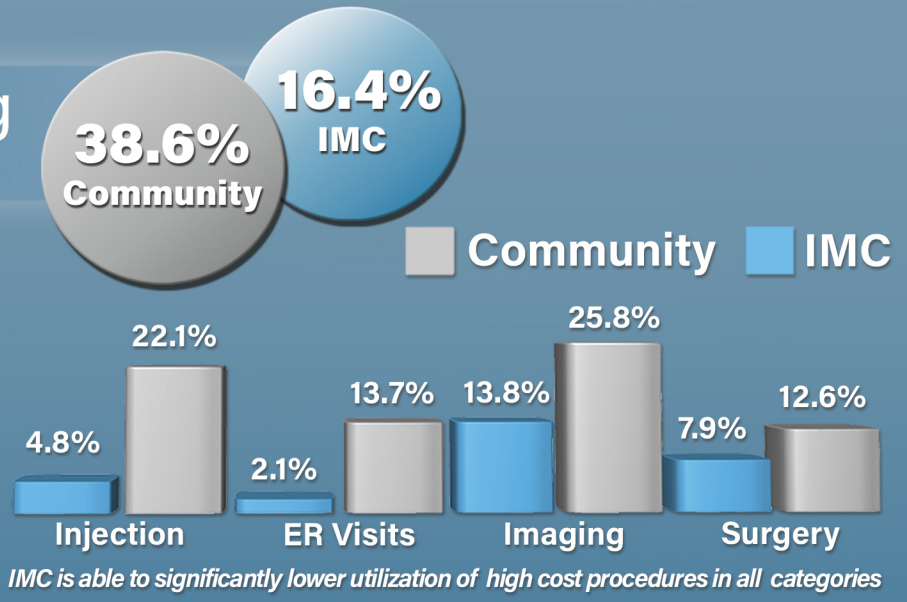
The outcomes that are meaningful for patients suffering from MSDs center around improving pain, improving function, decreasing the duration of the disability, and sustaining improvement.

IMC uses scientifically validated indices to measure these clinical metrics, validates their clinical effect, and makes adjustments to the clinical practice patterns of IMC's JointStrong® clinicians. These patient reported outcomes allow IMC to continuously improve the patient experience and benchmark provider performance.

## Reducing Care Seeking

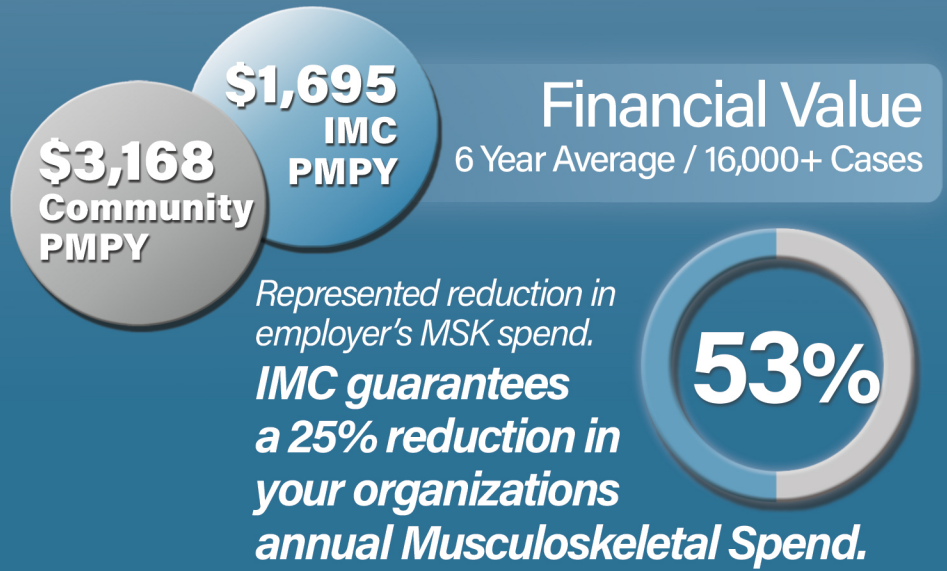
18 Month Study

High value MSK care resolves patient episodes and reduces future care seeking by emphasizing self-care and preventative strategies. The values represented above and to the right demonstrate a shift in care seeking behavior for cases discharged from IMC JointStrong® clinical programs versus results in community based practices using traditional methods.



## Economic Outcomes

IMC uses the employers medical claims data to validate the ROI produced through JointStrong® Programs and Solutions. Once IMC engages with plan members all cost associated with the member accrue to the IMC ledger. The PMPY values represented to the right are calculated by dividing unique members seen by the total costs associated with the relevant cohort.





# Conclusion

Integrated Musculoskeletal Care (IMC) has developed programs to lower the barriers that prevent finding healthcare value for MSK populations. The most significant barriers include the following:

- Lack of reliable assessments leading to high rate of misdiagnosis
- Variability amongst providers with assessments, diagnostics, and treatment methods
- Critical gaps in provider training
- Few systems in place to monitor and measure outcomes and patient experience
- Failure to implement a quality management processes around healthcare delivery
- Lack of provider transparency around clinical and economic outcomes

IMC has implemented solutions with a variety of partners, including health plans, ACO's, and self insured employer organizations throughout the United States. The excellent clinical outcomes achieved in these partnerships have created a significant decrease in 18 month recurrence of care seeking rates, dramatic shifts in the frequency of emergency/injection/surgical volumes, and a decrease in the total cost of care per member of more than \$1,000 per year.

**With more than 30 years as an industry leader in the field of musculoskeletal care, IMC has partnered with organizations ranging from Fortune 500 employers to private health plans of various sizes. We would like the opportunity to show your organization how to realize 25% savings on your annual MSK spend, while improving the clinical quality and outcomes results for your subscribers.**

**25%**  
Savings in  
MSK Spend

**Improved**  
Clinical Quality  
Outcomes

**To Start Today:** Contact IMC to conduct a historical analysis of your medical claims data, and we will develop a statement of opportunity showing the potential clinical and financial benefits of implementing JointStrong® Outcomes-Accountable™ Musculoskeletal Care Programs for your organization.



2615 Centennial Blvd  
Suite 101  
Tallahassee, FL 32308

TEL: (855) 293-0340  
FAX: (850) 877-2917

[www.imcpt.com](http://www.imcpt.com)  
[info@imcpt.com](mailto:info@imcpt.com)