# Common Problems Seen in a Metropolitan Sports Injury Clinic

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**In brief:** A hospital clinic primarily for recreational athletes was opened in New York City in 1975 and was staffed by orthopedic residents. During 4 1/2 years, 1,280 patients made a total of 2,732 visits to the clinic. Males outnumbered females by more than 2:1, and the average age was 30.2 years. The most frequently injured areas were the knee, ankle, and shoulder. Soft-tissue pathology was involved in 513 instances (53.9%); the rest (46.1%) were of a skeletal nature. Describing these problems may aid health practitioners in planning for the needs of recreational athletes.

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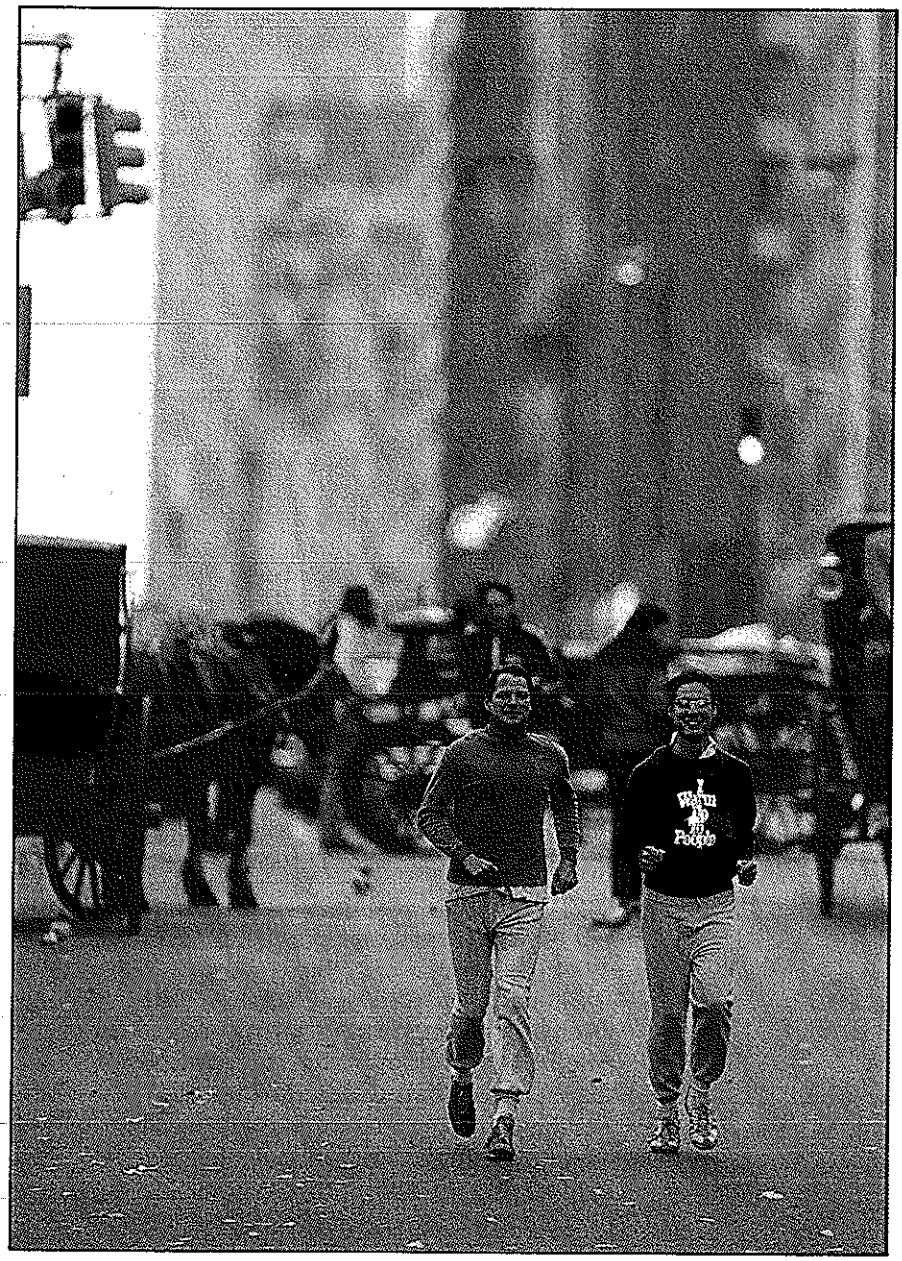

Most descriptive epidemiological investigations of sports-related injuries generally focus on specific sports (primarily football,[1-4] running,[5,6] and alpine skiing[7-10]) or school-organized teams,[11-14] but problems in recreational activities have been virtually ignored except for descriptions of injuries encountered in private practice.[15,16] Furthermore, reports of sportsmedicine clinics are limited specifically to running clinics[17,18] and a listing of injury sites in patients seen in urban and rural centers.[19]

Many of the millions of recreational athletes seek medical attention each year; in 1972

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**Table 1. Distribution of Injuries by Site**

| Body Part | No. | % |
|---|---|---|
| Knee | 486 | 45.5 |
| Ankle | 105 | 9.8 |
| Shoulder | 82 | 7.7 |
| Foot/heel | 77 | 7.2 |
| Elbow | 63 | 5.9 |
| Back | 53 | 5.0 |
| Hip | 48 | 4.5 |
| Tibia | 47 | 4.4 |
| Femur/hamstring | 44 | 4.1 |
| Fibula/calf | 19 | 1.8 |
| Wrist | 17 | 1.6 |
| Neck | 9 | 0.8 |
| Pelvis | 7 | 0.7 |
| Groin | 4 | 0.4 |
| Finger | 2 | 0.2 |
| Humerus | 2 | 0.2 |
| Leg (unspecified) | 2 | 0.2 |
| **Total** | 1,067 | 100.0 |

**Table 2. Sports in Which Injuries Occurred**

| Sport | No. | % |
|---|---|---|
| Running/jogging | 340 | 32.6 |
| Basketball | 101 | 9.7 |
| Tennis | 97 | 9.3 |
| Ballet/dancing | 74 | 7.1 |
| Football | 44 | 4.2 |
| Snow skiing | 37 | 3.5 |
| Weight lifting | 36 | 3.4 |
| Baseball/softball | 32 | 3.1 |
| Martial arts | 31 | 3.0 |
| Soccer | 16 | 1.5 |
| Gymnastics | 14 | 1.3 |
| Ice hockey | 11 | 1.1 |
| Miscellaneous (35 sports) | 133 | 12.7 |
| Unspecified | 78 | 7.5 |
| **Total** | 1,044* | 100.0 |

*Some athletes did not identify any sport and some identified more than one.

this number was greater than 17 million people.[20] Although many sports injuries are similar to general orthopedic trauma, many are peculiar to the movements involved in sports.[21] We think that a description of the sports-related injuries commonly seen in a metropolitan area would help the physicians, physical therapists, and other health practitioners who treat these people.

## Methods

A sportsmedicine clinic was opened in March 1975 at Lenox Hill Hospital in New York City in response to the growing need for better treatment of sports-related injuries. The clinic is operated by the hospital and its research facility, the Institute of Sports Medicine and Athletic Trauma (ISMAT). At first it was open one afternoon a month, but after two years this was expanded to every Monday afternoon. Patient charges range up to $40 per visit, based on five categories of ability to pay.

Patients are seen by orthopedic residents receiving training in sportsmedicine with an emphasis on prevention and exercise rehabilitation. At least two attending orthopedists are available for consultation at every session.

A report form designed by a researcher at ISMAT for the Sports Injury Clinic is completed by the physician after examining each patient and is later used for data compilation. We analyzed the reports from a 4 1/2 year study period (March 1975 through August 1979). We saw 1,280 patients who made 1,452 revisits (2,732 total visits) to the clinic, an average of approximately 18 patients per clinic session. Complete information was available for 989 of these people (77.3%).

## Results

There were 680 males (68.8%) and 309 females (31.2%), a male-to-female ratio of greater than 2:1. The age range of the patients was 10 to 70 years, with a mean of 30.2 years (30.6 for males, 29.4 for females).

The most frequently injured areas of the body (table 1) were the knee (486), ankle (105), and shoulder (82). Most injuries were from running and jogging (in 35.2% of the patients), followed by racket sports (12.4%), and basketball (10.5%). Table 2 lists the sports in which injuries occurred most often. Almost 76% of the injuries occurred during recreational activities, and 15.1% during school-related sports.

The 989 people presented 1,067 problems; a diagnosis was probable or definite for 951 of these (89.1%). Individual diagnoses are listed in table 3 and follow the *Standard Nomenclature of Athletic Injuries*[22] when possible. Soft-tissue pathology (musculotendinous injuries, connective tissue and bursal inflammations, ligamentous pathology, and neuro-

**Table 3. Frequency of Specific Diagnoses**

| | No. | % |
|---|---|---|
| **Patellofemoral disorders** | 240 | 25.2 |
| Patella subluxation | 128 | |
| Chondromalacia patellae | 99 | |
| General patellofemoral pain | 5 | |
| Patella alta | 4 | |
| Recurrent patella dislocation | 3 | |
| Bilateral patella bipartite | 1 | |
| **Musculotendinous injuries** | 199 | 20.9 |
| Strain (grades 1 and 2) | 75 | |
| Muscle tightness | 43 | |
| Strain (grade 3) | 21 | |
| Muscle weakness | 16 | |
| Muscle contracture | 12 | |
| Low back syndrome | 8 | |
| Muscle atrophy | 6 | |
| Contusion | 4 | |
| Subluxating tendon | 3 | |
| Muscle hernia | 2 | |
| Muscle spasm | 2 | |
| Traumatic myositis ossificans | 2 | |
| Tendon rupture | 2 | |
| Unspecified soft-tissue injury | 2 | |
| Benign tumor on Achilles tendon | 1 | |
| **Connective tissue/ bursal inflammations** | 191 | 20.1 |
| Tendinitis | 117 | |
| Epicondylitis | 40 | |
| Fasciitis | 15 | |
| Bursitis | 11 | |
| Traumatic periostitis | 2 | |
| Traumatic synovitis | 2 | |
| Tenosynovitis | 2 | |
| Inflamed popliteal cyst | 1 | |
| Stenosing tenosynovitis | 1 | |
| **Skeletal pathology** | 132 | 13.9 |
| Periosteal | 38 | |
| Shinsplints | 19 | |
| Fracture | 7 | |
| Fatigue fracture | 5 | |
| Avulsion fracture | 3 | |
| Osteophyte | 3 | |
| Diastasis | 1 | |
| Joint | 36 | |
| Impingement syndrome, shoulder | 18 | |
| Impingement syndrome, ankle | 7 | |
| Glenohumeral subluxation | 8 | |
| Dislocation | 3 | |
| Foot | 24 | |
| Pes planus | 7 | |
| Calcaneal exostosis | 6 | |
| Calcaneal osteophyte | 4 | |
| Hallux valgus (bunion) | 2 | |
| Hallux rigidus | 2 | |
| Pronated flat feet | 1 | |
| Subluxating metatarsal head | 1 | |
| Synostosis | 1 | |
| Osteoarthritis | 19 | |
| Knee | 8 | |
| Osgood-Schlatter disease | 8 | |
| Back | 7 | |
| Scoliosis | 4 | |
| Lumbar spondylosis | 3 | |
| **Ligamentous disorders** | 103 | 10.8 |
| Sprain (grades 1 and 2) | 63 | |
| Instability | 35 | |
| Sprain (grade 3) | 5 | |
| **Intra-articular defects** | 66 | 6.9 |
| Meniscus tear | 51 | |
| Internal derangement | 5 | |
| Osteochondritis dissecans | 4 | |
| Loose body | 3 | |
| Other meniscal damage | 2 | |
| Osteochondrosis | 1 | |
| **Neurological disorders** | 20 | 2.1 |
| Sciatica | 4 | |
| Brachial plexus neuropathy | 3 | |
| Plantar neuroma (metatarsalgia) | 3 | |
| Carpal tunnel syndrome | 2 | |
| Cervical radiculopathy | 2 | |
| Ganglion | 2 | |
| Herniated nucleus pulposus | 2 | |
| Paresthesia | 1 | |
| Sinus tarsi syndrome | 1 | |
| **Total** | 951 | 100.0 |

logical disorders) accounted for 513 cases, or 53.9%. Skeletal injuries, including patellofemoral disorders and intra-articular defects, accounted for 438 cases, or 46.1%.

## Conclusions

Clinics that specialize in the treatment and prevention of sports-related problems are necessary in urban areas because there are so many recreational athletes. These athletes need access to adequate, affordable treatment. Knowledge of the problems commonly seen in a metropolitan sports injury clinic may help health practitioners anticipate these problems.

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