

# Survey of Orthopaedic and Sports Medicine Physicians Regarding Use of Medrol Dosepak for Sports Injuries

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**Purpose:** To study the use of a methylprednisolone taper (Medrol Dosepak; Pfizer, New York, NY) short-term oral corticosteroid treatment modality by sports medicine physicians; included is discussion on indications, perceived efficacy, and complications. **Methods:** A survey specific to Medrol Dosepak (MDP) use was mailed to all members of the Arthroscopy Association of North America (AANA) and the American Orthopedic Society for Sports Medicine (AOSSM). Surveys were collected and data were collated and analyzed. **Results:** Total response rate was 41% (1,290/3,167), US response rate 43% (1,247/2,906), and international response rate 16% (43/261). Prescribing of MDP for sports injuries was significantly associated with average patient age  $\leq 40$  years ( $\chi$  square;  $P = .001$ ), but it was not associated with years in practice or patients seen per year. It was found that 47% of members (603/1,290) prescribe MDP. Postinjury disease was the most common indication. The most frequent complication was glucose intolerance (37%; 222/603). Of members who prescribe MDP, 8.5% (51/603) reported that they had seen 101 total cases of osteonecrosis, predominantly in the hip. Results revealed that 52% of members (672/1,290) do not prescribe MDP. The most frequent reasons for not prescribing included fear of osteonecrosis (30%; 201/672), fear of complications in general (27%; 183/672), lack of proven efficacy (27%; 180/672), and fear of malpractice (4.5%; 30/672). Of nonprescribing members (171/672), 25% had seen 500 cases of osteonecrosis, most often in the hip. **Conclusions:** The responding membership of AANA and AOSSM is evenly split regarding MDP use. Average patient age  $\leq 40$  years was associated with a greater likelihood that MDP would be prescribed for sports injuries. Postinjury disease is the most common indication; lack of proven efficacy and osteonecrosis are deterrents to prescription. **Level of Evidence:** Level V, expert opinion. **Key Words:** Sports injuries—Methylprednisolone—Oral corticosteroids.

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The routine use of anti-inflammatory medications, including corticosteroids, for the treatment of patients with athletic injuries is controversial. Anti-inflammatory medications have gained

widespread acceptance by athletes, athletic trainers, and physicians as a treatment adjunct during rehabilitation for sports-related musculoskeletal problems. Although these medications effectively reduce inflammation and pain, concern has been expressed about the scarcity of published clinical trials, unclear indications, potentially serious adverse effects, and even inhibition or delay of normal healing after injury.<sup>1-4</sup> Corticosteroids, the most potent inhibitors of inflammation, have been particularly scrutinized because of untoward effects that have been documented with long-term high-dose systemic use. Reports on adverse effects associated with low-dose corticosteroid use have shown that few commonly held beliefs about their incidence are supported by clear evidence.<sup>5</sup>

Nichols<sup>6</sup> searched medical literature that described the risks and complications associated with corticoste-

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roid treatment given for athletic injuries. This investigation failed to identify a single article that addressed the use of systemic oral corticosteroids or complications resulting from their use for the treatment of patients with sports-related musculoskeletal injuries. The author concluded that the existing medical literature does not provide precise estimates for complication rates following the therapeutic use of injected or systemic corticosteroids for the treatment of patients with athletic injuries.

In a more recent survey of head team physicians for the National Football League (NFL),<sup>7</sup> 83.9% of 31 respondents (29 orthopaedic surgeons and 2 primary care physicians) reported that they had prescribed oral corticosteroids, most commonly for intervertebral disc herniations. The oral corticosteroid most commonly used was methylprednisolone, at a starting dose of 12 to 24 mg given over 1 week. Of these physicians, 25.8% reported serious complications, most commonly osteonecrosis (16.1%). In another recent report,<sup>8</sup> primary care physicians were surveyed during a national sports medicine meeting. The 99 respondents were sports medicine clinicians who had undergone varied training and who had different types of practices. Of these providers, 58.6% reported that they had prescribed oral corticosteroids for musculoskeletal injuries. Prednisone was the most commonly prescribed corticosteroid (82%). Usual starting dose was 60 mg, and average prescription length was 7 days; 57.1% tapered the dose over the duration of treatment.

Although these surveys have enhanced our understanding of the prescribing practices of sports medicine physicians who use oral corticosteroids as a treatment modality for patients with athletic injuries, the descriptive data that have been generated are limited by the small sample size of respondents and by the failure of investigators to gather information on specific oral corticosteroid treatment regimens. Thus, the need remains for additional descriptive data that specifically reflect the orthopaedic sports medicine community. The purpose of the present study was to survey the collective membership of the Arthroscopy Association of North America (AANA) and the American Orthopedic Society for Sports Medicine (AOSSM) to gain insight into the use of, indications for, perceived efficacy, and complications associated with the Medrol Dosepak (MDP, methylprednisolone; Pfizer, New York, NY) used in the treatment of patients with athletic musculoskeletal injuries.

## METHODS

A survey was designed by the authors to explore the use of MDP as a treatment modality for patients with routine musculoskeletal sports-related injuries (Fig 1, online only, available at [www.arthroscopyjournal.org](http://www.arthroscopyjournal.org)). The survey was mailed to members of AANA and AOSSM. Mailing lists, obtained upon request from each respective organization, included all current international and national members as of June 2005. Over a 2-week period during the end of June 2005, surveys were mailed out in university envelopes with postage paid return envelopes. A personalized cover letter written on university letterhead with the signatures of each author was included.

Survey responses were collected over a 7-week period extending from June to August 2005. Data were collated and entered onto a spreadsheet, and descriptive results were generated.  $\chi$  square tests were used to determine whether prescribing of MDP for sports injuries was statistically related to years in practice, average patient age, or number of patients seen per year.

## RESULTS

The survey was mailed to 3,167 active members of the AANA and the AOSSM. Total response rate was 41% (1,290 of 3,167). Of US members, 43% (1,247 of 2,906) responded, as did 16% (43 of 261) of those from various other countries.

$\chi$  square tests showed no significant association between prescribing of MDP for sports injuries and years in practice ( $P = .19$ ) or total patients seen per year ( $P = .25$ ). The  $\chi$  square test showed that respondents with an average patient age  $\leq 40$  years exhibited a significantly higher frequency of prescribing MDP for sports injuries than did respondents whose patients were  $>40$  years old ( $P = .001$ ).

### Members Who Prescribe MDP

Of current members, 47% (603/1290) prescribe MDP. Table 1 (online only, available at [www.arthroscopyjournal.org](http://www.arthroscopyjournal.org)) shows data for time in practice, average patient age, and number of patients seen per year for those who prescribe MDP.

Responses showed that 49% (295 of 603) had prescribed MDP for longer than 10 years, 26% (157 of 603) between 5 and 10 years, 22% (133 of 603) between 1 and 5 years, and 2% (12 of 603) for less than 1 year. When questioned about the total number of times they had prescribed MDP for athletic injuries

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