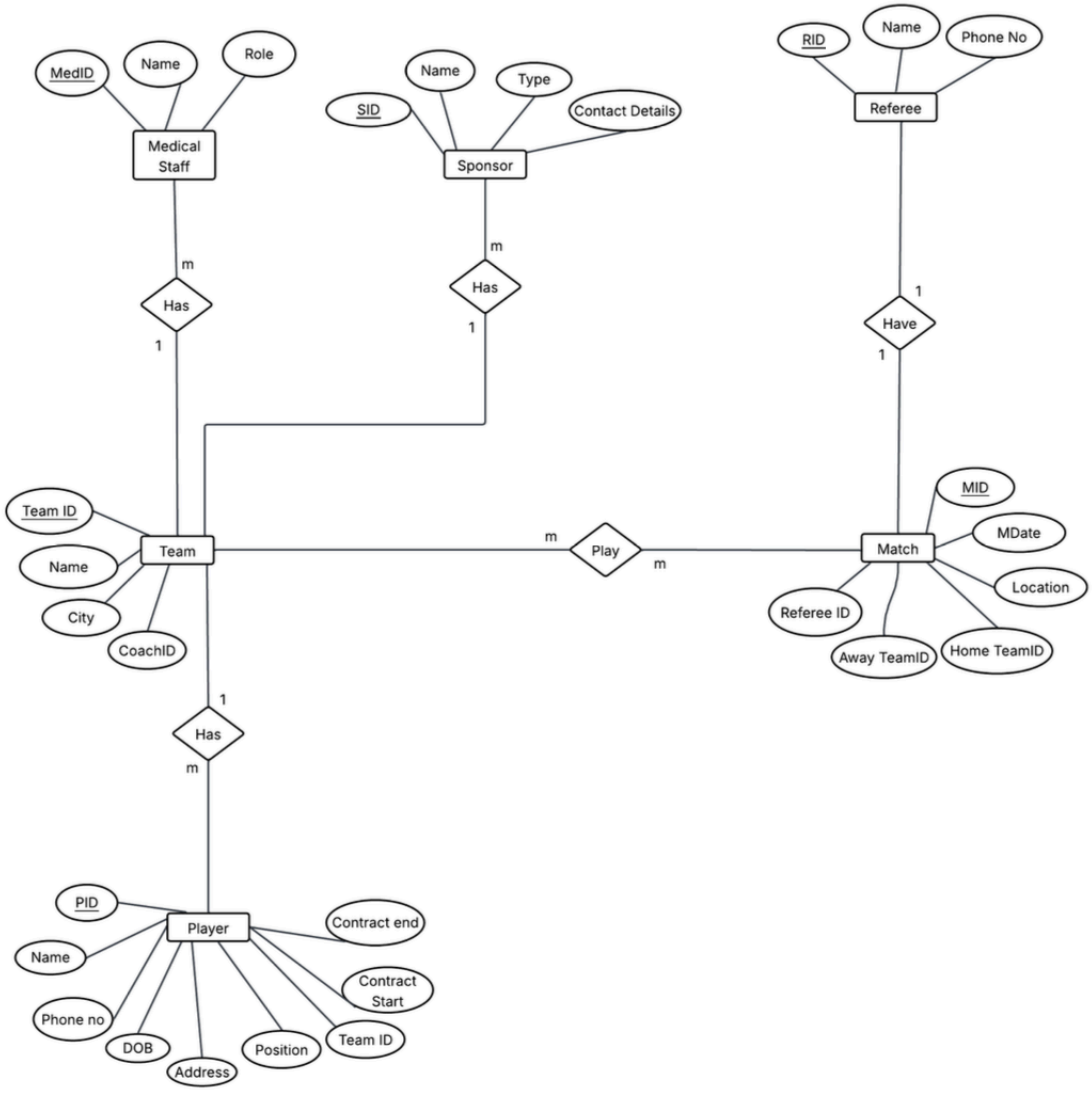
Enhanced ER (ER) Diagram for a Sports League Database



1. Core Entity Architecture

The system is built around the **Team** entity, which serves as the central hub connecting athletic talent, administrative staff, and competitive events.

- **Teams:** Defined by a unique `TeamID`, name, and geographic location. The inclusion of `CoachName` suggests a focus on the leadership structure of each squad.
- **Players:** This entity uses a **composite attribute** for the `Name` (First, Middle, Last) and tracks specific professional data, including field `Position` and contractual timelines (`ContractStart/End`).
- **Support & Oversight:** The system manages human resources through **Medical Staff** (categorized by `Role`) and **Referees**, ensuring both the health of the players and the integrity of the matches are maintained.

2. Relationship Dynamics and Cardinality

The model defines the operational rules of the organization through specific relational constraints:

Competitive Infrastructure

- **Team to Match (M:N):** This "many-to-many" relationship reflects a league structure where many teams participate in various matches over a season.
- **Match Specifics:** Each `Match` acts as a junction, identifying a `HomeTeamID` and `AwayTeamID`.
- **Referee Assignment (1:1):** Unlike some amateur systems, this model enforces a strict one-to-one mapping for matches, where one specific referee is dedicated to one specific match, and vice versa.

Organizational Management

- **Team to Player (1:M):** A "one-to-many" relationship ensures that while a team maintains a large roster, each player is legally and computationally bound to only one team at a time.
- **Team to Medical Staff (1:M):** This allows a team to employ a diverse medical department (physios, doctors, etc.), while each staff member is dedicated to a single team's health management.

Financial and Commercial Support

- **Team to Sponsor (1:M):** This relationship indicates a "Multiple-Sponsorship" model. A single team can be supported by various brands (Sponsors), though the current cardinality suggests that in this specific database, a sponsor is tied to one primary team partnership.

3. Data Integrity and Flow

The EER model ensures high data integrity through the strategic use of **Primary Keys (PK)** and **Foreign Keys (FK)**:

- **Relational Mapping:** Foreign keys like `TeamID` within the `Player` entity and `RefreeID` within the `Match` entity create a "web" of connectivity that allows for complex querying (e.g., *“List all players who played in a match officiated by Referee X”*).
- **Accountability:** By capturing `ContractStart` and `ContractEnd`, the system moves beyond a simple list and becomes a functional management tool for HR and payroll.
- **Normalization:** The separation of `Medical Staff` and `Sponsors` into their own entities prevents data redundancy and allows the organization to scale the number of staff or partners without altering the core `Team` table.