**Exhibit 10.5**

**AMENDED AND RESTATED EMPLOYMENT AGREEMENT**

This Amended and Restated Employment Agreement (the “Agreement”) is entered into as of July 31, 2007 (the “Effective Date”) by and between AMAG Pharmaceuticals, Inc., a Delaware corporation with offices at 125 CambridgePark Drive, 6th Floor, Cambridge, MA 02140 (the “Company”) Timothy G. Healey of 20 Leslie Road, Winchester, MA 01890  (“you”).

Whereas, the Company and you wish to amend and restate the Employment Agreement dated as of December 1, 2006 by and between you and the Company (the “Original Agreement”).

Now therefore, in consideration of the premises and mutual agreements hereinafter set forth, and intending to be legally bound hereby, the parties hereto agree to amend and restate the Original Agreement as follows:

1.             Position; Duties.

a)             Position.  You shall serve as Senior Vice President of Commercial Operations of AMAG, reporting to the Chief Executive Officer of the Company.

b)            Duties.  You shall perform for the Company the duties customarily associated with the office of Senior Vice President of Commercial Operations, and such other duties as may be assigned to you from time to time by the Company’s Chief Executive Officer (“CEO”) or the Company’s Board of Directors (the “Board”) that are consistent with the duties normally performed by those performing the role of the most senior executives of similar entities.  You shall devote substantially your full business time and best efforts to the performance of your duties hereunder and the business and affairs of the Company and will not undertake or engage in any other employment, occupation or business enterprise; provided, however, that you may participate as a member of the board of directors or advisory board of other entities and in professional organizations and civic and charitable organizations; provided further, that any such positions are disclosed to the Board or the Audit Committee thereof and do not materially interfere with your duties and responsibilities to the Company.  You shall be based in the Company’s principal offices, which currently are in Cambridge, Massachusetts.

2.             Term.  The term of this Agreement shall be for a three (3) year period commencing on the Effective Date unless terminated earlier pursuant to Section 4 below (the “Term”).  You may continue to be employed by the Company beyond the Term of this Agreement, but such employment shall be on such terms and conditions as you and the Company then may agree.  The parties will enter into discussions regarding their respective intentions to renew this Agreement within ninety (90) days of expiration of the Term.

3.             Compensation and Benefits.  The Company shall pay you the following compensation and benefits for all services rendered by you under this Agreement:

a)             Base Salary.  The Company will pay you an initial base salary (“Base Salary”) at the annualized rate of $265,000, minus withholdings as required by law and other deductions authorized by you, which amount shall be paid in equal installments at the Company’s regular payroll intervals, but not less often than monthly.  Your base salary may be increased annually by the Board or the Compensation Committee of the Board in their sole discretion.

b)            Bonus.  You will be eligible to receive an annual performance bonus of up to 40% of Base Salary for each fiscal year during the term of this Agreement beginning with the fiscal year ending December 31, 2007 based on the extent to which, in the discretion of the Board or the Compensation Committee in consultation with the Chief Executive Officer, you achieve specific and measurable individual and company performance objectives established by the Board or Compensation Committee in consultation with the Chief Executive Officer and communicated to you in advance.  The exact amount of the bonus for any year during the term shall be determined by the Board or the Compensation Committee in its sole discretion and may be more than the target bonus in the event you achieve all of your personal and company performance objectives or less than the target bonus if you do not achieve all of your personal and company performance objectives.  Unless otherwise provided herein, no bonus shall be deemed to have been earned by you for any year in which you are not actively employed by the Company on the last day of the fiscal year to which the bonus relates.

c)             Options.  You shall be eligible to receive stock options or other equity compensation under the Company’s equity incentive plans as recommended by the Chief Executive Officer and approved by the Board of Directors or the Compensation Committee from time to time.

d)            Vacation.  You will receive four (4) weeks of paid vacation per calendar year which shall accrue ratably on a monthly basis.

e)             Benefits.  You will be eligible to participate in all group health, dental, 401(k), and other insurance and/or benefit plans that the Company may offer to similarly situated executives of the Company from time to time on the same terms as offered to such other executives.

f)             Business Expenses.  The Company will reimburse you for all reasonable and usual business expenses incurred by you in the performance of your duties hereunder in accordance with the Company’s expense reimbursement policy.

4.             Termination.  Your employment with the Company may be terminated prior to the expiration of the Term as follows:

a)             Death.  This Agreement shall terminate automatically upon your death.

b)            Disability.  The Company may terminate your employment in accordance with applicable laws in the event that you shall be prevented, by illness, accident, disability or any other physical or mental condition (to be determined by means of a written opinion of a competent medical doctor chosen by mutual agreement of the Company and you or your personal representative(s)) from substantially performing your duties and responsibilities hereunder for one or more periods totaling one hundred and twenty (120) days in any twelve (12) month period.

c)             By the Company for Cause.  The Company may terminate your employment for “Cause” upon written notice to you.  For purposes of this Agreement, “Cause” shall mean any of: (i) fraud, embezzlement or theft against the Company or any of its affiliates; (ii) you are convicted of, or plead guilty or no contest to, a felony; (iii) willful nonperformance by you (other than by reason of illness) of your material duties hereunder and failure to remedy such nonperformance within ten (10) business days following written notice from the Chief Executive Officer or the Board identifying the nonperformance and the actions required to cure it; or (iv) you commit an act of gross negligence, engage in willful misconduct or otherwise act with willful disregard for the Company’s best interests, and you fail to remedy such conduct within ten (10) business days following written notice from the Chief Executive Officer or the Board identifying the gross negligence, willful misconduct or willful disregard and the actions required to cure it (if such conduct can be cured).

d)            By the Company Other Than For Death, Disability or Cause.  The Company may terminate your employment other than for Cause, disability or death upon thirty (30) days prior written notice to you.

e)             By You For Good Reason or Any Reason.  You may terminate your employment at any time with or without Good Reason upon thirty (30) days prior written notice to the Company.  For purposes of this Agreement, “Good Reason” shall mean that any of the following occurs without your prior written consent: (i) a material adverse change in your position, duties or responsibilities; (ii) a material reduction by the Company in the total annual compensation that you are then eligible to receive, unless such reduction is in connection with a proportionate reduction of compensation applicable to all other executive officers; (iii) any relocation of your principal place of business to a location more than 50 miles from the Company’s current executive offices in Cambridge, MA; or (iv) a material breach by the Company of any of the terms or provisions of this Agreement and failure to remedy such breach within thirty (30) days following written notice from you identifying the breach.

5.             Payment Upon Termination.  In the event that your employment with the Company terminates, you will be paid the following:

a)             Termination for Any Reason.  In the event that your employment terminates for any reason, the Company shall pay you for the following items that were earned and accrued but unpaid as of the date of your termination: (i) your Base Salary; (ii) a cash payment for all accrued, unused vacation calculated at your then Base Salary rate; (iii) reimbursement for any unpaid business expenses; and (iv) such other benefits and payments to which you may be entitled by law or pursuant to the benefit plans of the Company then in effect.  In addition, if your employment terminates due to your death, the Board or the Compensation Committee, in consultation with the CEO, shall determine the extent to which any of the individual performance objectives established pursuant to Section 3(b) above were met as of the time of your death.  If, based on that determination, the Board or the Compensation Committee determines that a bonus is due, the Company shall pay your estate an amount equal to such bonus, pro-rated for the portion of the fiscal year elapsed as of the time of your death.

b)            Termination Without Cause or for Good Reason.  In addition to the payments provided for in Section 5(a), in the event that (i) the Company terminates your employment other than for death, disability or Cause pursuant to Section 4(d) or you terminate your employment for Good Reason pursuant to Section 4(e); (ii) you comply fully with all of your obligations under all agreements between the Company and you; and (iii) you execute, deliver to the Company and do not revoke a general release (in a form acceptable to the Company) releasing and waiving any and all claims that you have or may have against the Company and its directors, officers, employees, agents, successors and assigns with respect to your employment (other than any obligation of the Company set forth herein which specifically survives the termination of your employment), then the Company will provide you with twelve (12) months of severance pay based on your then current Base Salary. The foregoing severance shall be paid in equal installments over the severance period in accordance with the Company’s usual payroll schedule.  This Section 5(b) shall not apply during the one year period following a Change of Control (as defined below), in which case Section 5(c) shall apply.

c)             Change of Control.  Upon a Change of Control, fifty percent (50%) of the unvested options to purchase common stock, restricted stock units and other equity incentives then held by you shall become immediately vested and the remaining unvested amount shall continue to vest in accordance with the applicable remaining vesting schedule.  Further, in the event that (i) within one year from the date a Change of Control (as defined below) of the Company occurs, the Company (for purposes of this section, such term to include its successor) terminates your employment other than for Cause pursuant to Section 4(c), death or disability or you terminate your employment with Good Reason; (ii) you comply fully with all of your obligations under all agreements between the Company and you; and (iii) you execute, deliver to the Company and do not revoke a general release (in a form acceptable to the Company) releasing and waiving any and all claims that you have or may have against the Company and its directors, officers, employees, agents, successors and assigns with respect to your employment (other than any obligation of the Company set forth herein which specifically survives the termination of your employment), then:

·      the Company will pay you twelve (12) months of severance pay based on your then current Base Salary, with such severance to be paid in equal installments over the severance period in accordance with the Company’s usual payroll schedule;

·      the Company will pay you one times the average annual bonus paid to you over the preceding three years, provided that in no event will a year prior to the year ended December 31, 2007 be used in this calculation;

·      the Company will continue your health and dental coverage until the earlier of: (i) twenty four (24) months from the date of termination of your employment; or (ii) the date you are provided with health and dental coverage by another employer’s health and dental plan; and

·      all unvested outstanding stock options, restricted stock units and other equity incentives that were granted to you before the Change of Control occurred shall immediately without further action become vested in full.

For purposes of this Agreement, “Change of Control” shall mean the first to occur of any of the following: (a) any “person” or “group” (as defined in the Securities Exchange Act of 1934, as amended) becomes the beneficial owner of a majority of the combined voting power of the then outstanding voting securities with respect to the election of the Board of Directors of the Company; (b) any merger, consolidation or similar transaction involving the Company, other than a transaction in which the stockholders of the Company immediately prior to the transaction hold immediately thereafter in the same proportion as immediately prior to the transaction not less than 50% of the combined voting power of the then voting securities with respect to the election of the Board of Directors of the resulting entity; (c) any sale of all or substantially all of the assets of the Company; or (d) any other acquisition by a third party of all or substantially all of the business or assets of the Company, as determined by the Board of Directors, in its sole discretion.  The payments, benefits and acceleration of vesting of stock options, restricted stock units and other equity incentives provided in this Section 5(c) shall override and replace with respect to you any Company wide policy with respect to payments, benefits and/or acceleration of vesting upon a Change of Control.  After the one year period following a Change of Control, this Section 5(c) shall no longer apply, and Section 5(b) shall continue to apply.

6.             Nonsolicitation Covenant.  In exchange for the consideration provided by this Agreement, you shall not, for a period of one year following the termination of your employment with the Company for any reason, directly or indirectly, whether through your own efforts, or in any way assisting or employing the assistance of any other person or entity (including, without limitation, any consultant or any person employed by or associated with any entity with which you are employed or associated), recruit, solicit or induce (or in any way assist another in recruiting, soliciting or inducing) any employee or consultant of the Company to terminate his or her employment or other relationship with the Company.

# 7.             Assignment.  This Agreement and the rights and obligations of the parties hereto shall bind and inure to the benefit of any successor of the Company by reorganization, merger or consolidation and any assignee of all or substantially all of its business and properties.  Neither this Agreement nor any rights or benefits hereunder may be assigned by you, except that, upon your death, your earned and unpaid economic benefits will be paid to your heirs or beneficiaries.

# 8.             Interpretation and Severability.  It is the express intent of the parties that (a) in case any one or more of the provisions contained in this Agreement shall for any reason be held to be excessively broad as to duration, geographical scope, activity or subject, such provision shall be construed by limiting and reducing it as determined by a court of competent jurisdiction, so as to be enforceable to the fullest extent compatible with applicable law; and (b) in case any one or more of the provisions contained in this Agreement cannot be so limited and reduced and for any reason is held to be invalid, illegal or unenforceable, such invalidity, illegality or unenforceability shall not affect the other provisions of this Agreement, and this Agreement shall be construed as if such invalid, illegal or unenforceable provision had never been contained herein.

# 9.             Notices.  Any notice that you or the Company are required to give the other under this Agreement shall be given by personal delivery, recognized overnight courier service, or registered or certified mail, return receipt requested, addressed in your case to you at your last address of record with the Company, or at such other place as you may from time to time designate in writing, and, in the case of the Company, to the Company at its principal office, or at such other office as the Company may from time to time designate in writing.  The date of actual delivery of any notice under this Section 9 shall be deemed to be the date of receipt thereof.

10.           Waiver.  No consent to or waiver of any breach or default in the performance of any obligation hereunder shall be deemed or construed to be a consent to or waiver of any other breach or default in the performance of any of the same or any other obligations hereunder.  No waiver hereunder shall be effective unless it is in writing and signed by the waiving party.

11.           Complete Agreement; Modification.  This Agreement sets forth the entire agreement of the parties with respect to the subject matter hereof, and supersedes any previous oral or written communications, negotiations, representations, understandings, or agreements between them.  Any modification of this Agreement shall be effective only if set forth in a written document signed by you and a duly authorized officer of the Company.

12.           Headings.  The headings of the Sections hereof are inserted for convenience only and shall not be deemed to constitute a part, or affect the meaning, of this Agreement.

13.           Counterparts.  This Agreement may be signed in two (2) counterparts, each of which shall be deemed an original and both of which shall together constitute one agreement.

14.           Choice of Law; Jurisdiction.  This Agreement shall be deemed to have been made in the Commonwealth of Massachusetts, and the validity, interpretation and performance of this Agreement shall be governed by, and construed in accordance with, the laws of Massachusetts, without regard to conflict of law principles.  You hereby consent and submit without limitation to the jurisdiction of courts in Massachusetts in connection with any action arising out of this Agreement, and waive any right to object to any such forum as inconvenient or to object to venue in Massachusetts.  You agree that, in any action arising out of this Agreement, you will accept service of process by registered mail or the equivalent directed to your last known address or by such other means permitted by such court.

15.           Advice of Counsel; No Representations.  You acknowledge that you have been advised to review this Agreement with your own legal counsel, that prior to entering into this Agreement, you have had the opportunity to review this Agreement with your attorney, and that the Company has not made any representations, warranties, promises or inducements to you concerning the terms, enforceability or implications of this Agreement other than as are contained in this Agreement.

16.           I.R.C. § 409A.All other provisions of this Agreement notwithstanding, this Agreement shall be construed to avoid any adverse tax consequences to you under Internal Revenue Code Section 409A, and the parties agree to amend this Agreement from time to time as may be necessary to that end, in a manner that best preserves the economic benefits to you.  Further, for so long as the Company has a class of stock that is publicly traded on an established securities market or otherwise, then the Company shall from time to time compile a list of “Specified Employees” as defined in, and in accordance with Treasury Reg. § 1.409A-1(i) or any successor regulation.  If you are a Specified Employee on the date of the termination of your employment with the Company, then, notwithstanding any other provision herein, no payment shall be made to you pursuant to this Agreement during the period lasting six (6) months from the date of such termination of employment unless the Company determines that there is no reasonable basis for believing that making such payment would cause you to suffer any adverse tax consequences pursuant to Section 409A. If any payment to you is delayed pursuant to the provisions of this paragraph, such delayed payment shall instead be made on the first business day following the expiration of the six (6) month period referred to herein.

IN WITNESS WHEREOF***,*** the Company and you have executed this Agreement as of the day and year first set forth above.

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|  | AMAG Pharmaceuticals, Inc. | | |
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|  | By: | /s/ Brian J. G. Pereira |  |
|  | Name:  Brian J.G. Pereira | | |
|  | Title:  President & Chief Executive Officer | | |
|  |  | | |
|  |  | | |
|  | /s/ Timothy G. Healey | |  |
|  | Name:  Timothy G. Healey | | |
|  | Title:  Senior Vice President of Commercial Operations | | |