

BICYCLE THERAPEUTICS PLC

AMENDED AND RESTATED CHARTER OF THE COMPENSATION COMMITTEE OF THE BOARD OF DIRECTORS

PURPOSE

The primary purpose of the Compensation Committee (the “*Committee*”) of the Board of Directors (the “*Board*”) of Bicycle Therapeutics plc (the “*Company*”) shall be to act on behalf of the Board in fulfilling the Board’s oversight responsibilities with respect to the Company’s compensation policies, plans and programs, and to review and determine (or recommend to the Board for approval) the compensation to be paid to the Company’s executive officers (as that term is defined in Section 16 of the Securities Exchange Act of 1934, as amended (the “*Exchange Act*”) and Rule 16a-1 thereunder) and directors. In addition, the Committee shall (i) review and discuss with management the Company’s disclosures contained under the caption “*Compensation Discussion and Analysis*” (“*CD&A*”), when and as required by applicable rules and regulations of the Securities and Exchange Commission (the “*SEC*”) in effect from time to time, for use in any of the Company’s annual reports on Form 10-K, registration statements, proxy statements or information statements filed with the SEC, (ii) prepare and review the Committee report on executive compensation included in the Company’s annual proxy statement in accordance with applicable rules and regulations of the SEC in effect from time to time and (iii) prepare any report on compensation required under English law, including the preparation of the directors’ remuneration report (the “*DRR*”) which report shall form part of the Company’s UK annual report and accounts and contain such information as is required to comply with the UK Companies Act 2006 (the “*Companies Act*”) and the directors’ remuneration policy as set out in the U.K. annual report and accounts (the “*DR Policy*”).

The term “*compensation*” shall include salary, long-term incentives, bonuses, perquisites, equity incentives, severance arrangements, retirement benefits and other related benefits and benefit plans.

The policy of the Committee, in discharging these obligations, shall be to maintain an overall compensation structure designed to attract, retain and motivate management and other employees by providing appropriate levels of risk and reward in proportion to individual contribution and performance.

COMPOSITION

The Committee shall consist of at least two (2) members of the Board. All members of the Committee shall satisfy, as determined by the Board, (i) the independence requirements imposed by The Nasdaq Stock Market LLC (“*Nasdaq*”) applicable to compensation committee members, as in effect from time to time, when and as required, including any phase-in periods permitted by these requirements, (ii) any other qualifications determined by the Board or the Nominating and Corporate Governance Committee from time to time, (iii) the “non-employee director” standard within the meaning of Rule 16b-3 promulgated under the Exchange Act and (iv) any other requirements imposed by applicable law.

Any subsequent determination that any member of the Committee does not qualify as a “non-employee director” will not invalidate any previous actions by the Committee, except to the extent required by law or determined to be appropriate to satisfy regulatory standards.

The members of the Committee shall be appointed by and serve at the discretion of the Board. Resignation or removal of the Director from the Board, for whatever reason, shall automatically constitute resignation or removal, as applicable, from this Committee. Vacancies occurring on the Committee shall be filled by the Board. The Committee’s chairperson (the “*Chairperson*”) shall be appointed by the Board, or if the Board does not do so, the Committee members shall designate a Chairperson by vote of a majority of the full Committee.

MEETINGS AND MINUTES

The quorum necessary for the transaction of business shall be two members and the Committee may act by a vote of a majority of the members present at such meeting. In lieu of a meeting, the Committee may act by unanimous written consent.

The Committee shall hold such regular or special meetings as its members shall deem necessary or appropriate, but in no event shall it meet less than annually. Any member of the Committee or the Board may call a meeting of the Committee. Unless otherwise agreed, notice of each meeting confirming the venue, time and date together with an agenda of items to be discussed, shall be forwarded to each member of the Committee and any other person required to attend no later than five working days before the date of the meeting.

Minutes of each meeting of the Committee shall be prepared and distributed to each director of the Company and the Secretary of the Company promptly after each meeting. The minutes of each meeting and any written consents of the Committee shall be placed in the Company’s minute book. The Chairperson (or in his or her absence, a member designated by the Chairperson) shall preside over all meetings. The Chairperson shall report to the Board from time to time and whenever requested to do so by the Board.

AUTHORITY

Each member of the Committee shall have full access to all books, records, facilities and personnel of the Company as deemed necessary or appropriate by any member of the Committee to discharge his or her responsibilities hereunder, including human resources personnel preparing the CD&A for inclusion in the Company’s filings with the SEC and the DRR when and as required.

The Committee shall have authority to pay, at the expense of the Company, ordinary administrative expenses that the Committee deems necessary or appropriate in carrying out its duties, unless prohibited by Nasdaq listing rules or applicable law. Except as limited by applicable law, rules and regulations, the Committee shall have authority to request that any of the Company’s personnel, counsel, accountants or investment bankers, or any other consultant or advisor to the Company, attend any meeting of the Committee or meet with any member of the Committee or any of its Compensation Consultants (as defined below).

The Committee may form and delegate authority to subcommittees as appropriate (but only to the extent consistent with the Company’s Articles of Association (the “*Articles*”), Corporate

Governance Guidelines (as defined below), rules of Nasdaq and other applicable law), including, but not limited to a subcommittee composed of one or more members of the Board or officers of the Company to grant share awards under the Company's equity incentive plans to persons who are not then subject to Section 16 of the Exchange Act. Without limiting the generality of the foregoing, the Committee may form and delegate authority to a committee composed solely of employees of the Company to serve as an administrative and/or investment committee, with fiduciary responsibilities under the Employee Retirement Income Security Act of 1974 ("**ERISA**"), with respect to one or more Company plans that are subject to ERISA. Delegation by the Committee to any subcommittee shall not limit or restrict the Committee on any matter so delegated, and, unless the Committee alters or terminates such delegation, any action by the Committee on any matter so delegated shall not limit or restrict future action by such subcommittee on such matters. The operation of the Committee shall be subject to the Articles as in effect from time to time and the Companies Act. The approval of this charter of the Committee (this "**Charter**") by the Board shall be construed as a delegation of authority to the Committee with respect to the responsibilities set forth herein.

RESPONSIBILITIES

To implement the Committee's purpose, the Committee shall have the following responsibilities. The Committee may supplement and deviate from these activities as appropriate under the circumstances (except as otherwise required by applicable law or the requirements of any stock exchange on which any of the Company's securities are then listed):

1. Overall Compensation Strategy. The Committee shall review, modify (as needed) and approve, or review and recommend, as applicable, the overall compensation strategy and policies for the Company, including:

- reviewing and approving, or reviewing and recommending to the Board for approval, annual corporate goals and objectives relevant to the compensation of the Company's Chief Executive Officer (the "**CEO**") and, to the extent applicable, other executive officers and senior management, as appropriate;
- evaluating and approving, or recommending to the Board for approval, the Company's performance against corporate goals and objectives;
- evaluating and approving, or recommending to the Board for approval, the compensation plans and programs advisable for the Company, as well as evaluating and approving, or recommending to the Board for approval, the modification or termination of existing plans and programs;
- establishing policies with respect to equity compensation arrangements with the objective of appropriately balancing the perceived value of equity compensation and the dilutive and other costs of that compensation to the Company;
- reviewing compensation practices and trends to assess the adequacy and competitiveness of the Company's executive compensation programs among

comparable companies in the Company's industry; however, the Committee shall exercise independent judgment in determining the appropriate levels and types of compensation to be paid;

- reviewing and approving the terms of any employment agreements, severance arrangements, change-of-control protections and any other compensatory arrangements (including, without limitation, perquisites and any other form of compensation) for the Company's executive officers and other senior management, as appropriate, which includes the ability to adopt, amend and terminate such agreements or arrangements;
- reviewing and approving any compensation arrangement for any executive officer involving any subsidiary, special purpose or similar entity, taking into account the potential for conflicts of interest in such arrangements and whether the arrangement has the potential to benefit the Company;
- monitoring the Company's compliance with the requirements of the Sarbanes Oxley Act of 2002 relating to loans to officers and directors and with all other applicable laws affecting employee compensation and benefits;
- reviewing the Company's practices and policies of employee compensation as they relate to risk management and risk-taking incentives, to determine whether such compensation policies and practices are reasonably likely to have a material adverse effect on the Company;
- review and consider the results of any advisory vote on executive compensation if required by Section 14A of the Exchange Act and the rules and regulations promulgated thereunder; and
- evaluating the efficacy of the Company's compensation policy and strategy in achieving expected benefits to the Company and otherwise furthering the Committee's policies.

2. Compensation of Chief Executive Officer. The Committee shall determine and approve, or review and recommend to the Board for approval, the compensation and other terms of employment of the CEO and shall evaluate the CEO's performance in light of relevant corporate goals and objectives, taking into account, among other things, the policies of the Committee and the CEO's performance in:

- fostering a corporate culture that promotes the highest level of innovation, integrity and the highest ethical standards;
- developing and executing the Company's long-term strategic plan and conducting the business of the Company in a manner appropriate to enhance long-term shareholder value;
- achieving specified corporate goals and objectives; and

- achieving other individual or corporate goals and objectives deemed relevant to the CEO as established by the Committee.

In determining any long-term incentive component of the CEO's compensation, the Committee should seek to achieve an appropriate level of risk and reward, taking into consideration the Company's long-term performance, need for a sustainable pipeline of products and relative shareholder return, the potential benefits and costs to the Company of the award, the value of similar incentive awards given to chief executive officers of comparable companies, the awards given to the CEO in past years and such other criteria as the Committee deems advisable. Based on its evaluation, the Committee shall determine and approve, or recommend to the Board for determination and approval, the compensation and other terms of employment of the CEO. The CEO may not be present during the voting or deliberations regarding his or her compensation.

For so long as the CEO is a director of the Company, the CEO's compensation shall be determined in accordance with the DR Policy as approved by the Company's shareholders from time to time.

3. Compensation of Other Officers and Senior Management. The Committee shall evaluate and approve, or recommend to the Board for approval, the achievement of individual performance goals and objectives of the Company's other officers (as that term is defined in Section 16 of the Exchange Act and Rule 16a-1 thereunder) and other senior management, as appropriate, that are established annually by the CEO. The Committee shall determine and approve, or review and recommend to the Board for approval, all elements of the compensation and other terms of employment of these executive officers and other senior management, as appropriate, taking into consideration the person's success in achieving his or her individual performance goals and objectives and the corporate goals and objectives deemed relevant to the person as established by the Committee or the Board, as appropriate, and in fostering a corporate culture that promotes the highest level of innovation, integrity and the highest ethical standards. In evaluating and determining, or making recommendations regarding, officer compensation, the Committee may, at its sole discretion, give consideration to the recommendations of the CEO. The compensation of any person who is a director of the Company shall be determined in accordance with the DR Policy as approved by the Company's shareholders from time to time.

4. Compensation of Directors. The Committee shall review and recommend to the Board the type and amount of compensation to be paid or awarded to non-employee Board members, including any consulting, retainer, meeting, committee and committee chair fees and other equity awards, as well as any changes the Committee considers appropriate. The compensation of any person who is a director of the Company shall be determined in accordance with the DR Policy as approved by the Company's shareholders from time to time. The Committee shall approve (and put to the Company's shareholders for approval) the DR Policy required under the Companies Act and any amendments or updates thereto. No director shall be involved in any decisions as to their own remuneration.

5. Selection of Compensation Consultants, Legal Counsel and Other Advisors. The Committee shall have the authority to obtain, at the expense of the Company, advice and assistance from internal or external legal, accounting or other advisors, experts and consultants (collectively, "**Compensation Consultants**") as the Committee deems necessary or appropriate for carrying out

its duties under this Charter. The Committee shall have direct responsibility for the appointment, compensation and oversight of the work of Compensation Consultants. Such Compensation Consultants shall report directly, and be accountable, to the Committee. The Committee may retain, or receive advice from, Compensation Consultants only after assessing the independence of such person in accordance with Nasdaq Listing Rule 5605(d)(3) or the requirements of any stock exchange on which any of the Company's securities are listed. However, nothing in this provision requires that any Compensation Consultants be independent. The Committee need not conduct this independence assessment with respect to: (a) the Company's in-house legal counsel; or (b) any Compensation Consultant whose role is limited to (i) consulting on any broad-based plan that does not discriminate in scope, terms or operation in favor of executive officers or directors of the Company and that is available generally to all salaried employees or (ii) providing information that either is not customized for a particular company or that is customized based on parameters that are not developed by the Compensation Consultant and about which the Compensation Consultant does not provide advice. The Committee shall have sole authority to approve the reasonable fees and the other terms and conditions of such engagement, including authority to terminate the engagement. The Company must provide for appropriate funding, as determined by the Committee, for payment of reasonable compensation to any such Compensation Consultant retained by the Committee. Nothing in this provision requires the Committee to implement or act consistently with the advice or recommendations of any Compensation Consultant or affects the ability or obligation of the Committee to exercise its own judgment in fulfillment of its duties.

6. Administration of Benefit Plans. The Committee shall have full power and authority to adopt, amend and terminate the Company's share option plans, share appreciation rights plans, pension and profit sharing plans, incentive plans, share bonus plans, share purchase plans, bonus plans, deferred compensation plans and sub-plans thereof and similar programs. The Committee shall have full power and authority to administer these plans, establish guidelines, interpret plan documents, select participants, approve grants and awards, approve modifications to awards, and exercise such other power and authority as may be permitted or required under such plans. Notwithstanding anything herein to the contrary, the Board shall retain the right to act on all such matters without limiting the Committee's authority, subject to compliance with applicable laws and regulations.

7. Compensation Discussion and Analysis. When and as required by applicable rules and regulations of the SEC in effect from time to time, the Committee shall review and discuss with management the Company's disclosures contained under the caption "**Compensation Discussion and Analysis**" for use in any of the Company's annual reports on Form 10-K, registration statements, proxy statements or information statements and determine whether to recommend to the Board that the CD&A be approved for inclusion in the Company's annual reports on Form 10-K, registration statements, proxy statements or information statements.

8. Compensation Proposals. The Committee shall provide recommendations to the Board on compensation-related proposals to be considered at the Company's annual meeting of shareholders, including the frequency of advisory votes on executive compensation and binding votes on the DR Policy.

9. Conflict of Interest Disclosure. The Committee shall review and discuss with management any conflicts of interest raised by the work of a Compensation Consultant retained by the Committee or management and how such conflict is being addressed, and prepare any necessary disclosure in the Company's annual proxy statement in accordance with applicable SEC rules and regulations.

10. Committee Reports. The Committee shall prepare and review the Committee report on executive compensation to be included in the Company's annual proxy statement in accordance with applicable SEC rules and regulations. The Committee shall prepare any report on compensation required under English law, including the DRR, which report shall form part of the Company's U.K. annual report and accounts and shall contain such information as is required to comply with the Companies Act, the Companies (Directors' Remuneration Policy and Directors' Remuneration Report) Regulations 2019 and all other applicable regulations in effect from time to time, and the DR Policy as set out in the U.K. annual report and accounts, which policy shall be put to the shareholders for their approval at the Company's annual general meeting ("**AGM**") at least every three years, or sooner in the event a change to the policy is proposed.

11. Clawback and Recoupment. The Committee will approve and modify, as needed (or recommend to the Board for approval or modification), clawback policies allowing the Company to recoup compensation paid to employees in accordance with applicable law and stock exchange requirements.

12. Charter. The Committee shall review and assess the adequacy of this Charter annually and shall recommend any proposed changes to the Board for its consideration.

13. Committee Evaluation. The Committee shall conduct an evaluation of the performance of the Committee at least annually.

14. General Authority. The Committee shall perform such other functions and have such other powers as may be necessary or appropriate in the discharge of any of the foregoing. The Committee shall perform all its duties on the basis of the considerations required to be taken into account by the rules of any stock exchange on which the Company's securities are then listed, all applicable codes of practice and laws and the Committee's view of good practice at the relevant time. In addition, while carrying out its duties, the Committee shall have due regard to their duties as directors under the Companies Act.

PUBLICATION

The Company shall make this Charter freely available to shareholders on request and, provided that the Company is subject to the periodic reporting requirements of the Exchange Act, shall publish it on the Company's website.

Approved by the Board of Directors: 27 September, 2023

Effective: 27 September, 2023